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THE UNIVERSITY OF ALBERTA

ATTITUDES TOWARD AGING: A COMPARISON OF TWO WESTERN CANADIAN CITIES

by

DARCY LYNN JOHNSTON

Ⓒ

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF ARTS

SOCIOLOGY

EDMONTON, ALBERTA
FALL 1988

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(SIGNED) Darcy Johnston

PERMANENT ADDRESS:

2099 Saxon Road
Oakville, Ontario
Canada L6L 2V1

DATED July 6 1988

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled ATTITUDES TOWARD AGING: A COMPARISON OF TWO WESTERN CANADIAN CITIES submitted by DARCY LYNN JOHNSTON in partial fulfilment of the requirements for the degree of MASTER OF ARTS.

....
Supervisor

....

B.E. Munro
....

Date. Oct 1, 1988 ....

Dedication

To Chuckie

Abstract

Past investigations of the aging and modernization theory (Cowgill and Holmes, 1972) have primarily examined the differences between pre-industrial nations. Likewise, so have investigations of the individual-modernity theory as outlined by Bengtson et al., (1975). In contrast, the emphasis of this study was on the differences between two communities within an industrialized nation. This investigation tested the individual-modernity theory by examining differences between two western Canadian cities. Two samples, 400 in Edmonton, Alberta and 336 in Winnipeg, Manitoba, of male and female adults were used. The relationships between individual-modernity, as measured by kinship contact, value orientation, and socio-economic status were examined. The factor analysed attitude items revealed three dimensions: optimistic, pessimistic, and individualistic. The variables which related to each of these dimensions differed between the cities and provided negligible support for the individual-modernity theory. The relationship between knowledge about the elderly, as measured by a modified version of Palmore's Facts on Aging quiz, and attitudes toward old age were also examined. The most noteworthy finding of this investigation was a negative effect of knowledge on the pessimistic attitude dimension. This finding held for both cities and indicates that the more accurate people's perceptions of the elderly are, the less pessimistic are their attitudes toward old age.

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Table of Contents

Chapter Page

I. Purpose 1

II. Literature Review 5

A. Development of Questionnaire Items 6

B. Methodological Criticisms 16

C. Contact With The Elderly And Attitudes 18

D. The Attitude-Behavior Connection 22

E. Predictors of Attitudes Toward Aging and The Elderly 26

F. Conclusion of Literature Review 31

III. Theory and Rationale 36

A. Modernization Theory 36

B. Criticisms of the Modernization Theory 40

C. Individual-Modernity Theory 48

D. Rationalization of Present Investigation 49

IV. Methodology 51

A. Survey Design 51

B. Data Collection 52

C. Variables 52

Personal Characteristics 53

Kinship Contact 54

Value Orientation 55

Socio-Economic Status 58

Knowledge About The Elderly 59

Attitudes Toward Old Age 61

D. Measurement Reliability and Validity 66

E. Statistical Methods 69

Factor Analysis 69
Multiple Regression 70

V. Results 73

A. T-Test 73

B. Factor Analyses of Attitudes Toward Old Age 77

Winnipeg Factor Structure 77
Edmonton Factor Structure 78
Comparison of Factor Structures 79

C. Pearson Correlations for Attitude Scales 85

Winnipeg 85
Edmonton 86
Summary of Pearson Correlations on the Attitude Scales 86

D. Pearson Correlations for the Contact Measures ..88

Winnipeg 88
Edmonton 89
Summary of Pearson Correlations for the Contact Measures 89

E. Pearson Correlations for Knowledge Scale 90

Winnipeg 91
Edmonton 91
Summary of Pearson Correlations for the Knowledge Scale 91

F. Multiple Regressions for the Attitude Scales ..100

G. Trimmed Multiple Regression Equations 110

Winnipeg 110
Edmonton 111
Summary of Multiple Regressions on the Attitude Scales 112

H. Multiple Regressions for the Contact Measures .115
- Winnipeg 115
- Edmonton 115
- Summary of Multiple Regressions on the Contact Measures 116

I. Multiple Regressions for the Knowledge Scale ..120
- Winnipeg 120
- Edmonton 120
- Summary of Multiple Regressions on the Knowledge Scale 121

J. Path Analyses 126
- Winnipeg 126
- Edmonton 127
- Summary of the Path Analyses 129

VI. Discussion 134
- A. Review of the Results 134
- B. Discussion of Findings 136
- C. Conclusion 139
- D. Suggestions for Future Research 141

VII. References 145

List of Tables

Table Page

1 Selected Independent Variables: Categories, Frequencies, Means, and Standard Deviations (Winnipeg and Edmonton) 62

2 Percentage of Correct Responses to Questions Regarding Knowledge About the Elderly (Winnipeg and Edmonton) 65

3 Attitude Items: Means, Standard Deviations, T-Values, and Significance Levels (Winnipeg and Edmonton) 74

4 Mean Frequencies of Contact With Elderly Relatives, T-Values, and Significance Levels (Winnipeg and Edmonton) 75

5 Knowledge Scale: Percentage of Correct Responses, T-Values, and Significance Levels (Winnipeg and Edmonton) 76

6 Rotated Factor Loadings on Attitude Items (Winnipeg and Edmonton) 80

7 Rotated Attitude Items: Categories, Frequencies, Means, Standard Deviations, Factor Loadings, and Explained Variances (Winnipeg) 81

8 Rotated Attitude Items: Categories, Frequencies, Means, Standard Deviations, Factor Loadings, and Explained Variances (Edmonton) 83

9 Pearson Correlations of Selected Independent Variables with Factor Analyzed Attitudes Toward Old Age (Winnipeg and Edmonton) 94

10 Pearson Correlations ofSelected Independent Variables with Contact With Elderly Relatives (Winnipeg and Edmonton) 96

11 Pearson Correlations of Selected Independent Variables with Knowledge About the Elderly (Winnipeg and Edmonton) 98

12 Differences Between the Unstandardized Slopes on the Optimistic Scale: T-Values and Significance Levels (Winnipeg and Edmonton) 104

13 Differences Between the Unstandardized Slopes on the Pessimistic Scale: T-Values and Significance Levels (Winnipeg and Edmonton) 106

14 Differences Between the Unstandardized Slopes on the Individualistc Scale: T-Values, and Significance Levels (Winnipeg and Edmonton) 108

15 Multivariate Analyses of Optimistic, Pessimistic, and Individualistic Attitude Scales on Selected Independent Variables (Winnipeg) 113

16 Multivariate Analyses of Optimistic, Pessimistic, and Individualistic Attitude Scales on Selected Independent Variables (Edmonton) 114

17 Multivariate Analyses of Contact With Elderly Relatives on Selected Independent Variables (Winnipeg) 118

18 Multivariate Analyses of Contact With Elderly Relatives on Selected Independent Variables (Edmonton) 119

19 Multivariate Analyses of Knowledge About the Elderly on Selected Independent Variables (Winnipeg and Edmonton) 122

20 Multivariate Analyses of Perceived Physical Health Status on Selected Independent Variables (Winnipeg and Edmonton) 123

21 Multivariate Analyses of Household Income on Independent Variables (Winnipeg and Edmonton) 124

22 Multivariate Analyses of Education on Selected Independent Variables (Winnipeg and Edmonton) 125

LIST OF FIGURES

Figure Page

1 Path Analyses for Variables Predicting Attitudes Toward Old Age in Winnipeg 132

2 Path Analyses for Variables Predicting Attitudes Toward Old Age in Edmonton 133

I. Purpose

Bengtson et al., (1975) refined the aging and modernization theory, formally outlined by Cowgill and Holmes (1972), so that it would apply to individual modernity within a single society. It is his individual modernity theory which forms the theoretical basis of the present investigation. The theory holds that an inverse relationship exists between individual modernity and positive attitudes toward the elderly. Whenever the individual-modernity theory is employed, however, the studies are generally of a societal scope in pre-industrial countries and typically focus on males (Bengtson and Smith, 1975; Cowgill and Holmes, 1972; Rhoads, 1974).

This investigation is a unique contribution to the field of social gerontology, in that it applies the individual modernity theory to individuals in two communities within an industrial country. The questionnaires used in the analysis are identical for the Edmonton and Winnigpeg samples and as such enable the results from one city to be compared to the results from the other and thus checked for reliability. Another unique feature of this investigation is that it looks at males and females from ages 18 to 67. Most research on attitudes toward aging and the elderly stops at assessing either the attitudes of college students, institutional personnel, or the attitudes of the elderly themselves. Rarely do gerontological studies sample from as broad a population base as the one available here.

The purpose of this thesis is to examine critically the role of individual modernity as related to knowledge about the elderly, and attitudes toward old age. This thesis will also test the contact hypothesis, adopted from work in ethnic relations. This area of research found that social contact between segregated groups leads, under certain specified conditions, to more accurate perceptions and reduced prejudice (Allport, 1954; Amir, 1969; Stephen, 1978; Caspi, 1984). Thus this theory holds that contact with elderly people will result in improved attitudes toward old age and the elderly. In this thesis both the individual modernity and the contact hypotheses will be tested for non-institutionalized adults in an industrialized country.

These hypotheses will be tested using variables from available data sets. This study is based on data collected from randomly selected households in the cities of Edmonton, Alberta and Winnipeg, Manitoba. The 1981 Edmonton and Winnipeg area surveys focused on rural/urban migration and asked a series of questions about attitudes toward old age and knowledge about the elderly in that year.

The secondary nature of the data set used, however, limits the number of individual modernity, contact, and knowledge measures available. Three main relationships, based on the individual-modernity theory, will be investigated: (1) **kinship contact** and attitudes toward old age; kinship ties will be measured by presence or absence of children in the household, the number of elderly relatives, marital status, and contact with elderly relatives; (2) **value orientation** and attitudes toward old age; value orientation will be measured by ethnicity, religiousity, and rural/urban upbringing; (3) **socio-economic status** and attitudes toward old age; socio-economic status will be measured by level of education and total household income. The rationale for these categories will be discussed later in Chapter III. In addition to the effect of individual modernity, the effect of knowledge about the elderly will be tested as an intervening variable.

This investigation will begin with a literature review in order to gain an understanding of the state of the area of gerontology dealing quantitatively with attitudes toward old age and the elderly. Although this investigation deals specifically with attitudes toward old age, the literature usually pertains to attitudes toward the elderly and as such will be reviewed in the following general areas: (1) the development of questionnaire items designed to assess attitudes toward the elderly; (2) the effect of contact with the elderly on attitudes toward the elderly; and (3) attempts to relate attitudes to behavior toward the elderly. The section relating attitudes to behavior will be included to illustrate the pratical significance of attitude research.

Chapter III, Theory and Rationale, will discuss the development and criticisms of the aging and modernization/modernity theories and their applicability to the study of attitudes toward old age. Hypotheses will then be postulated based on previous empirical and theoretical evidence. Chapter IV, Methodology, will describe the sample, operationalize the variables, and rationalize the statistical methods choosen for this analysis. Chapter V will present the results which will be discussed along with concluding remarks and suggestions for future research in Chapter VI.

II. Literature Review

Empirical research on attitudes toward the elderly began in the 1940s. Individual-level studies constitute the bulk of the literature on attitudes toward aging and the elderly.[1] As the name implies these studies analyze the attitudes held by individual subgroups within a given society. They focus on the relationship between the dependent variables, stereotypes held by individuals toward the elderly, and the traditional sociological independent variables of age, sex, and education. The early studies tended to employ questionnaires and adjective check lists to evaluate the attitudes that all subjects in all situations hold toward the elderly. The later studies, that is the ones post 1970, tend to move away from the general category of attitudes toward old people to attitudes of specific individuals toward specific older persons in specific contexts.[2]

The major theme of this research tradition over the last forty years has been the finding that that old age and the elderly are regarded negatively (Axelrod and Eisdorfer, 1961; Bell and Stanfield, 1973a; b; Bennett and Eckman, 1973; Bringmann and Rieder, 1968; Collette-Pratt, 1976; Golde and Kogan, 1959; Hickey and Kalish, 1968; Kogan, 1961; Kogan and Shelton, 1962a; b; Thorson, Whatley, and Hancock, 1974; Tuckman and Lorge, 1952a; 1953b; 1954a). We now turn our attention to the earlier studies and the specific types of measurement instruments employed.

---

[1] An extensive review of individual- and societal-level studies is provided by McTavish (1971).

[2] A good review of these studies is provided by Green (1981).

A. Development of Questionnaire Items

Attitude assessment has been carried out by employing several instruments of varying length, and with diverse item formats, contents, and response scales. Five instruments typically used to measure attitudes toward the elderly are:

1. Tuckman-Lorge's (1952b) Attitude Scale;
2. Golde and Kogan's (1959) Sentence Completion;
3. Kogan's (1961) Attitudes Toward Old People Scale (OP);
4. Kastenbaum and Durkee's (1964) Age-Appropriate Attitude Technique (AAAT); and
5. Eisdorfer and Altrocci's (1961) Semantic Differential Scale.

Although survey research on attitudes toward the elderly actually began in 1945 with the work of Drake, Tuckman and Lorge are credited with initiating survey measurement (1952b; 1953a) They developed a questionnnaire containing what they considered to be negative stereotypes and common misconceptions of old people in general (age not specified). As McTavish (1971:94) notes the statements were derived from Tuckman and Lorge's personal experiences, interviews with various public service agents, employers, and clinical practicioners, rather than from a specific theoretical perspective. Young and old respondents were asked to circle either "yes" or "no" to one hundred and thirty-seven statements classified into thirteen categories: Physical (subdivided into Sensory, Digestion, Coordination, Homeostasis, Illness and Accidents, Fatique, Discomfort, Voice, and Death) Financial, Conservatism, Family, Attitude Toward Future, Insecurity, Mental Deterioration, Activities and Interests, Personality Traits, Best Time of Life, Sex, Cleanliness, and Interference (Tuckman and Lorge, 1953a). Questionnaire items were employed such as: Old people need glasses to read; Old people have never had it better; Old people feel that their children have failed them; and Old people cannot concentrate even on simple tasks.

Scores were derived by the totalling the number of "yes" responses. Scores were also examined by the thirteen sub-categories, by the percentage agreement with individual items, and by the total scale score.[3] Tuckman and Lorge (1953b; 1954b) reported that continuous response scales, which would measure the percentage of elderly to which the subject feels the stereotype statement applies, rather than a Yes/No dichotomy made little difference in assesing the subject's attitude (McTavish 1971:94). Tuckman and Lorge found little differences in the average stereotype scores of various subject groups. They did, however, find large observed differences in percentage of agreement with different scale items and concluded that subjects are reluctant to agree with negative items about the elderly (McTavish 1971:95).

---

[3] Scale validity and reliability indices were not reported.

Axelrod and Eisdorfer (1961) examined the stimulus group validity of the Tuckman and Lorge stereotype scale. They gave the scale to five groups of students each of which received different instructions on the age-referent of the questions (35, 45, 55, 65, and 75-year-olds). They found that only ninety-six of the original one hundred and thirty-seven items were 'valid,' in that agreement with these items increased with the age of the reference group and appeared significantly more times in the rating of the 65 plus 75 year-old groups than in the 35 plus 45 year-old groups. They thus reduced the original one hundred and thirty-seven item scale to ninety-six items by excluding the characteristics which were often attributed to age groups other than old people. Eisdorfer (1966) again revised the scale and limited it to seventy-nine items which he found consistently differentiated between young and old people.

Golde and Kogan (1959) developed a sentence completion procedure to assess attitudes toward the elderly. They used this procedure because (1) they believed that the objective attitude items used by Tuckman and Lorge, while yielding information of considerable value, was too restrictive to provide a thorough picture of the present belief and attitude domain; and (2) a sentence format would allow a comparison of a matched set of control items with the referent 'most people' substituted for 'most old people' (Kogan and Shelton, 1962:93). In this way they could test empirically whether beliefs about 'old people' differed from

C

comparable beliefs about 'people' in general.

They developed twenty incomplete sentence stems designed to reflect the emotions, physical attributes, interpersonal qualities, and values attributed to 'old people.' Subjects were instructed to complete each sentence stem with the first answer that came into their minds. For example, the sentence stem "Most old people's lives are..." could be completed with: (A) Negative (e.g., lack stimulation or happiness); (B) Positive (e.g., happy, fulfilled); (C) Emphasized on the past; (D) The Individual's responsibility (e.g., what they make it).

Using the sentence completion measure Kogan and Shelton (1961a; b) found age differences in images and beliefs regarding 'old people' and concluded that the elderly occupy a quasi-minority status and that many of the beliefs held by younger subjects could become self-fulfilling prophecies. For instance, they found that younger people think that older people resent them which may lead to younger people being defensive toward older people. Defensive behavior may in turn bring about resentment of old people by younger persons (Kogan and Shelton, 1962:108). The results are interpreted as reflecting ambivalent, conflictive, and inaccurate perceptions between generations. Thus their findings suggest that in order to bring about attitude change, methods derived from extensive experience in altering attitudes toward minority groups might be applied to the aged (Bennett and Eckman, 1973:584).

Kogan (1961a), noting that Tuckman and Lorge made no use of scaling procedures to measure attitudes, developed a Likert scale of essentially identical positive and negatively stated items. The items were taken from the ethnic prejudice literature and covered areas such as residence, tension, homogeneity, intergenerational relations, dependence, cognitive style, personal appearance, negative attitudes, and power (McTavish 1971:95). The key difference is that while Tuckman and Lorge measured stereotypes, Kogan measured prejudices.

Kogan's OP scale consists of seventeen items expressing negative sentiments about the elderly paired with seventeen items expressing a positive variant of the negative item. For example, "Most old people get set in their ways and are unable to change" versus "Most old people are capable of changing when the situation demands it." These items were interspersed among items from the California F and Anti-Negro scales (Adorno, Frenkel-Brunswick, Levinson, and Sanford, 1950), Srole's Anti-minority and Anomie scales (Srole, 1956), scales of attitudes toward mental illness and blindness, and thirty true/false personality measures (Murray, 1938; cited in Bennett and Eckman, 1973:580). Positive and negative scores were derived by summing weighted six point scales ranging from strongly disagree to strongly agree.

Kogan (1961b) found that older adults tended to endorse the OP items worded positively more than a younger sample, but no differences emerged for the OP negative scale. Kogan hypothesized that this agreement tendency was a personality correlate of aging and he attributed it to the "cognitive energy" level of the elderly. He also found almost no correlation between scores on positively and negatively worded statements with elderly subjects. A high correlation would be expected given that the positive statements are merely the negative statements worded positively. Item means revealed that college subjects in general tended to be more favorable than unfavorable toward the elderly. Kogan found positve correlations between attitudes toward the elderly and nurturant needs, attitudes toward the physically disabled, and the mentally disturbed. In addition, negative correlations were found between attitudes toward the elderly and feelings of anomie. Kogan interprets the relationship between anomie and unfavorable attitudes toward old people as implying that subjects [illegible]th a precarious and threat-oriented view of life (anomic) may view old age as that time of life when his/her pessimistic predictions are confirmed (Kogan, 1961a:52-53). These predictions are confirmed in old age when old people are viewed as having no future, as being helpless, and as awaiting death (Kogan, 1961a:52-53).

Kastenbaum and Durkee (1964) developed a semi-direct approach to assessing attitudes toward the elderly. Their Age-Appropriate Attitude Technique (AAAT) involved presenting subjects with six fictitious characters who are each described as having a different outlook on the future. Subjects were then asked to estimate the most likely age of each character and to choose which of the six sketches had a point of view closest to his or her own. The six estimated ages were then ordered sequentially, thus presenting the normal succession of outlooks as one proceeds along one's lifeline. This method does not require subjects to make direct statements about old age, but rather to express attitudes in a semi-direct manner and in a context which does not single out a particular period of life.

Kastenbaum and Durkee (1964) concluded that college students have a strong tendency to regard old people as bound to the past. A replication by Sadowsky (1978), supported the conclusion of Kastenbaum and Durkee's original study. The study has been criticized, however, for using all male names (Ted, Grant, Sam, Harry, Phil, and Charlie), and it is suggested that the results should not be generalized to all elderly, but apply only to the male elderly.

Eisdorfer and Altrocci (1961) employed a semantic-differential scale to compare attitudes toward the elderly and attitudes toward average people and the mentally ill. Their semantic differential instrument did not rely on a list of statements, but allowed for the influence of connotative judgment. Not only were total scores computed for each respondent, but meaningful factor scores were computed on each of the attitudinal dimensions.

Subjects were asked to check each of twenty seven-point bipolar items representing four factors: (1) Evaluative (good....bad); (2) Potency (weak....strong); (3) Activity (slow....fast) derived from Osgood et al. (1957); (4) Understandability (predictable....unpredictable) derived from Nunnally (1961)(Eisdorfer, 1961:342). Analysis of mean factor scores revealed that the elderly were clearly differentiated from average and mentally ill persons. The elderly were seen as being lower in value, less potent, and less active than average people, but just as understandable.

Rosencranz and McNevin (1969) developed another semantic differential scale, based on extensive lists of bipolar adjectives compiled by subjects of all ages. This scale served (1) to extend beyond existing studies which assign a single stereotype score based on total subject response; and (2) to analyze the effects of differential social experiences upon subject stereotypes of an aging individual in each of three age categories (20-30, 40-55, and 70-85) (Rosencranz and McNevin, 1969:55).

On scales with response categories from one to seven, subjects were asked to rate individuals according to such polar opposites as: Progressive....Old-fashioned; Generous....Selfish; Optimistic....Pessimistic; Ordinary....Eccentric. A factor analysis revealed three major dimensions: (1) Instrumental-Ineffective; (2) Autonomous-Dependent; and (3) Personal Acceptability-Unacceptability. Individuals in the three age groups were then rated on the resultant thirty-two item bipolar scale. The older man was judged more ineffective, more dependent, and less personally acceptable than the middle aged or younger man.

Other researchers, noting the multi-dimensional nature of attitude items, also conducted factor analyses. Naus (1973) factor analysed semantic differential scales of students' views of the elderly. His analysis yielded three factors termed Evaluation, Decisive-Indecisive, and Instrumental-Ineffective. Thomas and Yamamoto's (1975) factor analysis, likewise, yielded three dimensions termed Evaluation, Affect, and Activity-Potency. Cunningham (1978) identified a General factor plus four factors referring specifically to Physical, Life Satisfaction, Public Representability, and Interpersonal Characteristics of elderly people. Hickey, Rakowski et al., (1978) identified three factors among their attitude items: Social Value of the Elderly, Aging of Friends and Peers, and Personal Fears about Aging.

Kilty and Feld (1976) added a practical dimension to their analysis of attitudes toward the elderly. They investigated the dimensionality of attitudes toward aging and the elderly with two data sets. The first set of statements dealt with the characteristics, stereotypes, and common beliefs about aging and the elderly. The second set was directed at practical and tangible issues related to aging.

The first data set consisted of thirty-five items chosen to reflect some of the common beliefs and stereotypes (positive and negative) that have been used in social-psychological research. Their statements were derived from the work of Tuckman and Lorge (1952c), Srole (1956), and Kogan (1961b). A factor analysis revealed four dimensions: (1) items from the Tuckman and Lorge Older Workers Scale; (2) items from the Srole Alienation Scale; (3) items from Tuckman and Lorge, Kogan, and some new items reflecting "Postive Reaction to Older People"; and (4) items from Tuckman and Lorge's Stereotype Scale reflecting "Negative Reaction to Older People." An analysis of younger and older age groups revealed no difference in the structure of beliefs about aging and the elderly between the two groups.

The second data set consisted of thirty-five statements designed to assess beliefs regarding the practical aspects of life for the elderly: tax relief, public transportation, medical care, nursing homes, and the political aspects of fulfilling the needs of older people. A factor analysis revealed the following four dimensions: (1) General Entitlements of Older People; (2) Societal Rejection of Older People; (3) Entitlement to Remaining in the Community; and (4) Reciprocity between the Elderly and the Community. While factors 2, 3, and 4 had core items in common between the two samples, they also contained a large number of items which were idiosyncratic to one age group or the other.

Kilty and Feld (1976:593) found demographic characteristics such as age, sex, education, and income to have little effect on the factor analytic results.

B. Methodological Criticisms

As Kogan (1979:13) points out many so-called 'attitude' measures actually measure a mixture of attitudes, knowledge, beliefs, preferences, and/or intentions. According to Scott (1968; cited in Bennett and Eckman 1973:577) an attitude is a hypothetical construct usually defined as "an enduring organization of motivational, emotional, perceptual, and cognitive processes, with respect to some aspect of the individual's world." An attitude, therefore, "embodies both an affective component and an action tendency (conation), but is distinguished from other subclasses of motives by the presence of a cognitive (sometimes evaluative) component (Bennett and Eckman 1973:577). Opinions are verbal manifestations of attitudes and by definition values are a subclass of attitudes which involve an evaluative appraisal or prediction of an object (Bennett and Eckman, 1973:577).

Strictly speaking, an attitudinal statement reflects a positive or negative disposition toward the concept, that is, is it good or bad? A statement of belief, however, is defined as the probability dimension of a concept (Fishbein and Raven, 1961:40). Is the concept's existence probable or improbable? Whereas, a statement of knowledge implies a degree of informational accuracy about the target independent of any value orientation.

Many of the one hundred and thirty-seven items on the Tuckman and Lorge questionnaire have been criticized for being statements of knowledge rather than reflections of attitudes (Kogan, 1979:13). For example, "Old people worry about financial security" does not illicit either a positive or a negative disposition toward the elderly. If many elderly do in fact worry about financial security, then a "yes" response would reflect informational accuracy rather than a negative attitude. Other items are indeed attitudinal, such as "Old people have too much power in business and politics." The main criticism launched against Tuckman and Lorge is that their items represent a heterogeneous collection of belief and attitude statements (Kogan, 1979:14). As Kogan (1979:14) notes, there is nothing wrong in studying knowledge about aging and the elderly, so long as one is not operating under the false impression that one is studying only attitudes.

It was precisely in response to the psychometric inadequacies of the Tuckman and Lorge instrument that Kogan developed the "Attitudes toward Old People Scale" (OP Scale). The OP Scale, however, is unidimensional and as stated a good deal of research indicates that attitudes toward aging and the elderly are not unidimensional, but multi-dimensional (Cunningham, 1978; Hickey, Radowski et al., 1978; Kilty and Feld, 1976; Naus, 1973; Rosencranz and McNevin, 1969; Thomas and Yamamoto, 1975). Kogan (1979:15), however, argues that there is little evidence that the separate dimensions produced by the factor-analytic method offer any advantage over a global evaluative (positive-negative) dimension and states that his OP Scale has produced highly satisfactory internal-consistency reliabilities and item-sum correlations (that is, .09 to .70).

C. Contact With The Elderly And Attitudes

Despite evidence suggesting that attitudes are not necessarily predictive of behavior some researchers have attempted to alter attitudes toward the elderly. These attempts are based on research indicating that the elderly occupy a quasi-minority status (Barron, 1953; Drake, 1957; Kogan and Shelton, 1962; Rosencranz and McNevin, 1969).

Rosencranz and McNevin (1969) hypothesized that the amount and quality of contact with elderly people would affect the judgment of a 70 year-old man. They found that subjects who had daily or weekly visits with at least one grandparent rated the elderly person more favorably on each of the three dimensions than those who had little or no contact with the elderly. The differences between the two groups were not statistically significant on their Instrumental-Ineffective dimension.

Auerbach and Levenson (1977) explored the application of ethnic constructs to intergenerational contact within the context of a college classroom. Their rationale is summed up in the following statement, "...an exploration of the nature of contact between the old and young and their attitudes toward each other is vital if the quality of life of the elderly is to be improved" (Auerbach and Levenson, 1977:362). Their nondirectional hypothesis was based on the work of Amir (1969) who found that intergroup contact does lead to change in ethnic relations, though not necessarily a positive change. He showed that more negative attitudes were brought about when the contact produced competition between groups, when the contact increased tension, and when the contact was involuntary. More positive attitudes were brought about when conditions were of an intimate nature, that is when the situation allowed the participants to get to know and understand each other.

Auerbach and Levenson (1977) compared scores on Kogan's OP scale for subjects enrolled in classes with elderly students to scores obtained for subjects in classes with no elderly students. Subjects were tested at the beginning of the semester and at the end. There were no significant differences in the attitudes of control subjects between the first and second administrations of the OP scale, but the experimental group's attitudes were significantly more negative. Subjects in the experimental group were asked to write short paragraphs expressing their opinions and feelings about the elderly. The students complained that the elderly tended to: cluster together, to bring up irrelevant information about their past lives, and because they generally only took one course at a time, tended to spend an inordinate amount of time on class work and were viewed as unfair competition. These authors thus demonstrated that attitudes toward the elderly could be changed by contact, albeit negatively.

Patterson (1981) addressed the effects of naturalistic research on the elderly as a method of changing students attitudes toward the elderly. She describes a course at the University of Kansas where students are required to visit an elderly person over the semester on a regular basis. Students acted as participant/observers in an informal natural setting. They were required to complete several written assignments that described the life circumstances of the person with whom they had established a relationship. In general, students rejected categorizing or pigeonholing their elderly subjects. They concluded that the elderly adults were living out their lives in their own unique ways, maintaining, insofar as their environment (physical-social-emotional-economic) would allow, the patterns and activities accrued over a life-time. Patterson concludes that naturalistic research has the potential for exorcising negative stereotypes and increasing knowledge of and sensitivity to the transactions between persons and environment.

Wilson and Hafferty (1980) investigated the effects of a seminar on aging and health on attitudes toward the elderly. First-year medical students attitudes toward the elderly were assessed before and one year after a seminar involving factual information, personal contact with the sick and well elderly, personal contact with role models for clinical geriatrics, and student case presentation of elderly patients. Students were assessed based on answers to Likert-type opinion items, sentence completion scales and an item where they were asked to estimate the percentage of elderly who are chronically ill. Students who attended the seminar held significantly more favorable and more complex attitudes toward the elderly than did their classmates who did not attend the seminar. The authors believe that the improved attitude change was the result of an educational experience that combined accurate factual information, personal contact with elderly persons at different levels of health, and reinforcement provided through discussions with clinical role models and peers.

Murphy-Russell, Die, and Walker (1986) investigated the influence of three methods of attitude change on attitudes toward the elderly. Three workshop sessions identified in the literature (that is, discussion with peers, direct contact with the elderly, and increased knowledge) were used on a control and experimental group of students. In the first workshop, labelled discussion with peers, subjects were asked to complete Palmore's Facts on Aging Quiz and then participated in a discussion of the quiz and their attitudes toward the elderly. In the second workshop, labelled direct contact with the elderly, an elderly man and woman were asked prearranged questions by the experimenter in an interview format (for example, hobbies, philosophy of life, and likes and dislikes concerning current age). In the third workshop, labelled increased knowledge, subjects were shown an information filmstrip (Concept Media, 1973) dispelling common myths about aging and the elderly. Subjects were administered a variant of Kogan's OP scale in a pretest and two posttests. Their results indicate that while each workshop produced some positive change in attitude, the direct contact with an elderly couple was the most effective. Their work is a good example of how work on attitude assessment can be put to practical application.

D. The Attitude-Behavior Connection

A controversial issue in the social-psychological literature is the extent to which verbal expressions of attitudes relate to behavior (Kogan, 1979:16). Examination of the Tuckman and Lorge Scale, Kogan's OP Scale, and Rosencranz and McNevin's Semantic-Differential measures reveals that endorsement or rejection of any of the items does not have an obvious effect on behavior toward the elderly (Kogan 1979:16). On the other hand, some statements developed by Kilty and Feld (1976) do concern the explicit needs of the elderly. This is shown by the item, "Even if it meant an increase in taxes, this area should be provided with a public transportation program for the elderly." Responses to statements such as this one could predict how a community might vote on a referendum concerning the elderly. As Kogan (1979:21) notes, if attitudes cannot be linked to behaviors then the theoretical utility of attitude concepts is seriously called into question.

Ajzen and Fishbein (1977) believe that attitude scales should work best where they can be analyzed in regulation to a variety of behaviors, which can be examined in naturalistic contexts such as senior citizen's centers, nursing homes, and hospitals. Attendents, nurses, physicians, and other gerontological service personnel are the ones most targetted for this type of research. The logic is appreciated; that is, there is no point in studying attitudes if they are not related to behavior. Their view is undoubtedly shared by others and provides a partial explaination for the vast amount of literature that has been gathered in hospital and institutional settings (Baker, 1984; Cason et al., 1983; Chandler et al., 1986; Eakes, 1985; Edel, 1986; Ellor and Altfeld, 1980; Glass et al., 1986; Kahana and Kiyak, 1984; Solomon, 1980; Snape, 1986; Winn and Elias, 1980).[4] Much of this research, however, still stops at measuring the attitudes held by institutional personnel and does not link attitudes to behavior.[5]

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[4] To mention but a few of the studies conducted in institutional settings. The present investigation, however, does not assess institutionalized populations. For this reason, these studies will not be elaborated on. They are mentioned here, merely to illustrate the practical direction attitude research has taken in recent years.

[5] It should also be noted that less than ten percent of Canada's elderly are institutionalized and results obtained from institutional settings neither represent attitudes held by the larger population nor are these attitudes directed

Silverman (1966) measured the relation between OP Scale scores and students' preference to interview diverse demographic groups. He found a significant correlation between favorable attitudes on the OP Scale and a higher rank assigned to "retired people" as potential interviewees. Although methodologically sound, the Silverman study actually measured behavioral *intention to interview*, rather than actual interviewing behavior.

Naus (1973) measured the relationship between Rosencranz and McNevin's (1969) semantic-differential measure of attitudes and personal space preference. Personal space preference was measured by the geographical distance between two silhouettes placed on a cardboard in the course of telling a story about the figures. The placement of two younger persons served as the baseline which was then compared with the distance established between a young and an old person. Naus hypothesized that subjects scoring more favorable attitudes toward the elderly on the semantic-differential would position the young and old silhouettes closer together. The findings, however, were the opposite. Subjects were also asked if they would be willing to telephone an "old person" every morning to see if he/she was okay. No significant relationship was found between the attitude scores and the behavioral intention. Naus's procedure has been criticised for not providing an opportunity for subjects to meet with the 25-year-old who

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[5] (cont'd) toward the average elderly person.

served as a baseline. Kogan (1979:18) concludes that Naus's study must be classified as a failure in uncovering meaningful attitude-behavior relationships. Perhaps Naus's study is indicative that personal space preferences and willingness to help are caused not by attitudes, as predicted, but by other, unmeasured variables.

Weinberger and Millham (1975) employed a multi-dimensional, multiple method analysis of attitudes toward the elderly. Subjects rated an auto-biographical sketch of a representative 25-year-old and a representative 70-year-old on the categories of general satisfaction, negative and positive personality characteristics, level of dependence, and adjustments and adaptability. Overall they found that even though the 70-year-old was viewed as more self-accepting, satisfied with life, adjusted, and adaptable than the 25-year-old, college students rated the 70-year-old in a less favorable light than the 25-year-old. After the subjects completed the ratings of the two target persons, they were given the choice of (a) meeting and speaking with the older target person and then filling out another evaluation; or (b) reading and rating another biography. Subjects who chose to rate another biography were judged as behaviorally avoiding the elderly. No relationship was found between scores of attitudinal judgments and the behavioral measure.

In sum, the few attitude/behavior studies that do exist, outside of institutional settings, tend to measure behavioral intention rather than actual behavior. This occurs, no doubt, because it is much simpler methodologically to ask a subject whether or not he/she would volunteer to interact with an elderly person than to observe subjects in actual encounters with old people.[6]

E. Predictors of Attitudes Toward Aging and The Elderly

The most frequently studied predictors of attitudes toward aging and the elderly are age, sex, and education, although other variables are sometimes considered. In order of frequency of use, findings involving these variables will now be presented.

Age. Findings using age tend to be inconsistent. Some have found that older people have a more positive attitude toward the elderly than do younger persons (Anatharaman, 1979; Knapp and Moss, 1963; Kogan and Wallach, 1961; Neugarten, 1958; Newfield, 1971; Youmans, 1971). Youmans (1971) looked at the differences in perceptions of old age existing between two generations, one aged 20 to 29 and the other aged 60 and over. He found that the older group had a stronger conviction about positive characteristics of old people. Kogan and Wallach (1961), however, found older subjects to have more negative attitudes toward the elderly. Kalish and Johnson (1970), on the other hand, found a curvilinear association between age and attitudes. Other studies have found no relationship between age and attitudes toward the elderly (Hickey and Kalish, 1968; Kogan, 1961a; Philblad et al., 1967; Troll and Schlossberg, 1970). Bear and Guy (1976) found young people to have positive attitudes toward aging and the elderly. Borges and Dutton (1976) found that optimism toward old age increases as a function of age until age 50 when optimism decreases slightly. Several studies have found that the young have negative attitudes toward the elderly (Tuckman and Lorge, 1953; Kastenbaum and Durkee, 1964; Hickey and Kalish, 1968). Others have found that the young have more positive attitudes toward the elderly than do older persons (Thorson, Whatley, and Hancock, 1974). DoKa (1985-86) found adolescents had neither negative nor positive images of aging or the elderly, though Hickey et al., (1968) and Weinberger (1979) found that children hold stereotypic and unfavorable attitudes toward the elderly.

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[6] The practical nature of the attitude/behavior research is appreciated, however, as with most research dealing with questionnaire items behavior measures are not available on the data sets being examined in this investigation. As a consequence, this investigation, like most others, will be restricted to assessing correlates of attitudes.

Sex. Sex also shows inconsistent results. Most studies of sex differences have found that males have more positive and less stereotypical views of the elderly than females (Bekker and Taylor, 1966; Kogan and Shelton, 1962a; Merrill and Gunter, 1966; Perrill, 1963; Tuckman and Lorge, 1952b). Some, however, have found that females have more positive attitudes toward old age than males (Drevenstedt and Banziger, 1977; Troll and Schlossberg, 1970). Others have found no relationship between sex and attitudes toward old people (Britton and Britton, 1970; Kogan, 1961b; Rosencranz and McNevin, 1969; Traxler, 1971; Tuckman and Lorge, 1953a, 1953b).

Education. This variable has been found to correlate positively with attitudes toward old age (Brown, 1967; Campbell, 1971; Gillis, 1973; Thorson, Whatley, and Hancock, 1974; Tuckman and Lorge, 1954b). Merrill and Gunter (1969) found that those with college education held fewer stereotypic attitudes toward the elderly than those with high school or elementary education. Thorson, Whatley, and Hancock (1974) looked at a hierarchial ordering of educational groupings and found that those in the higher ranked groups had more positive attitudes.

Income. This variable is often analyzed under the heading of social class. Several studies have found a positive relationship between social class and attitudes toward old age (Hickey et al., 1968; Neugarten and Peterson, 1967; Rosencranz and McNevin, 1969). Neugarten (1958), however, found no relationship between social class and attitudes toward the elderly.

Perceived Health. Physical Health, as reported by the respondent, has been found to correlate positively with attitudes toward old age (Collette-Pratt, 1976; Jeffers et al., 1961; Preston, 1968; Rosencranz, 1966; Tuckman and Lorge, 1958b).

Rural/Urban Residence. Youmans (1971) looked at the effect of either an urban or a rural place of residence on perceptions of the age at which a person is most respected and influential. Both the young generation (20-29) and the older generation (60+)in the urban area gave first choice to later middle age (45-64) as the most respected and influential stage of .ife. In the rural area, however, early middle age (22-45) was deemed the stage of most respect and influence.

Religion. Hickey et al., (1968) found no association between religion and attitudes toward old age, while Perrill (1963) found differences in views of old people by religion and residence. Although the specific differences found by religion and residence were not reported.

Contact With the Elderly. Some have found a positive relationship between the amount of contact with the elderly and positive attitudes toward the elderly (Naus, 1973; Rosencranz and McNevin, 1969; Tuckman and Lorge, 1958a). Gordon and Hallauer (1976) found participation in a visitor program for the elderly resulted in no significant change in attitudes toward the elderly. Auerbach and Levenson (1977), however, found that attitudes toward the elderly became significantly more negative over the course of a semester when elderly people were in a college class. A control group, which did not have elderly persons in their class, showed no difference in attitudes between the beginning and the end of the semester. Olejnik and LaRue (1981) found adolescents' attitudes toward the elderly became less negative following two months of daily contact with the elderly. Knox and Gekoski (1980) found quality[7] contact was strongly related to positive attitudes toward the elderly. Caspi (1984) compared children in a day care which had elderly teaching aides with children in a day care run by younger staff members. He found that the children with cross-age contact evaluated the elderly more favourably on a nine item semantic differential. Others have found no relationship between contact with the elderly and attitudes (Drake, 1957; Ivester and King, 1977; Tuckman and Lorge, 1953a; 1954b; 1958b).

Krout (1988) examined the differences between rural and urban parents' frequency of contact with children. He found proximity to children to be the strongest predictor of in-person contact and concludes that rural people do not have more frequent intergenerational contact than urban people.

Knowledge About the Elderly. Some researchers conclude that courses in gerontology do little to change attitudes toward the elderly (Fletcher et al., 1971; Troll and Schlossberg, 1970; Tuckman and Lorge, 1954b), suggesting that knowledge about old age does not affect attitude. Porter and O'Connor (1978) found a more positive attitude toward the elderly occurred after factual information was given to a psychology class. Gordon and Hallauer (1976) found attitudes to improve after a class in adult development.

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[7] Quality, assessed by a self-report questionnaire, was unspecified.

Contact with the elderly combined with factual knowledge about the elderly has been found to result in positive attitude changes toward the elderly (Trent, Glass, and Crockett, 1977; Glass and Trent, 1980; Murphy-Russell et al., 1986). Wilson and Hafferty (1980) found improved attitudes one year after a seminar consisting of factual information about the elderly and contact with the elderly. Gordon and Hallauer (1976) found subjects in a class on adult development who visited elderly people had more improved attitudes than subjects who only attended the course. Doka (1985-1986) found that adolescents who participated in an interview project with elderly adults did not show a significant improvement in their attitudes toward or in their knowledge about the elderly.

F. Conclusion of Literature Review

As this review shows, there are few consistent results across studies. Nevertheless, most studies find that the elderly are viewed less favorably than people in younger age groups. These stereotypes likely occur, according to Kogan (1979:27), since the mere fact that the researcher is requesting a comparative judgment carries the implication for the subject that differences must exist.

Hamilton (1976; cited in Kogan 1979:27) suggests that stereotyping is not necessarily a distortion in reasoning, but a consequence of the human categorization process. In additon, attitude scales are intrinsically wrought with methodological flaws. Subjects overgeneralize about the target group because they are forced to respond to old people as a class, ignoring the individual differences within that class. Thus when categories such as "old," "middle-aged," and "young" are differentiated, subjects are likely to render, cognitively, the age groups more homogeneous and different from each other than they really are.

Brubaker and Powers (1976:445) argue that the negative stereotype of aging becomes more positive as people get older and that either a positive or negative stereotype is mediated by a positive or negative self-concept. Thus a prior overgeneralized negative view of the elderly is presumed to be replaced by an overgeneralized positive view as individuals age. Their viewpoint is partially substantiated by Borges and Dutton (1976) who report that attitudes toward old age become increasingly more optimistic as people age. This trend, however, tends to plateau out when people reach age 50. Kaufman (1986:6) concludes, from a qualitative study of how the elderly view themselves, that the elderly do not relate to being old, but rather express a sense of self that is ageless. She further states that, although most people over 65 acknowledge the physical changes that take place with aging, they view themselves as possessing the same personality traits that they had since their youth (Kaufman, 1986:13).

The findings from individual-level quantitative studies can be criticized for two reasons. First, the samples are usually college students, and, therefore, the findings cannot be generalized to the larger population. Second, the use of various measurement instruments makes it difficult to compare findings from different studies. The major advantage of attitude scales, however, is that subjects' scores can be ordered quantitatively on a continuum from negative to positive or from pessimistic to optimistic. But can a number (or a set of numbers in a multi-dimensional framework) convey people's true attitudes toward aging and the elderly? Perhaps not, but such quantification can provide the basis of comparison between groups as is the case in the present investigation.

The authors reviewed here have suggested that future research should attempt to: (1) define, isolate, and measure relevant causes, correlates, and consequences of attitudes toward the elderly; (2) employ sampling frames broader than the typical student populations; (3) conduct longitudinal studies on national samples; (4) develop and employ valid and reliable measurement instruments; and (5) link individual-level studies and societal-level theory.

It is unfortunate that the bulk of the literature concerning attitudes toward aging and the elderly has emphasized instruments and techniques rather than processes, constructs, and theories. Connor and Walsh (1977; cited in Green, 1981:103 and in Kogan, 1979:31), however, hypothesized that decisions about the competence of older workers, for example, whether or not older workers should be permitted to continue beyond the traditional retirement age of 65, could well depend upon the kinds of attributions that employers make about older workers' successes and failures. Kelly's (1967) attribution theory holds that individuals rely on three sources of information for explaining behavior that they observe: 1) consistency (whether the actor observed always responds in the same way to a particular stimulus); 2) distinctiveness (whether the actor responds in this way to all or only a few stimuli of this type); and 3) consensus (whether all or only a few people respond to the stimulus in the way the actor does (Green, 1981:103).[8]

Consensus is the most relevant to the present discussion.

> "The theory predicts that when consensus is high (that is, when most people would be expected to behave in the same way as the actor under observation), the observer will attribute the behavior to external causes beyond the individual's control. When consensus is low (that is, when the behavior observed is seen as unusual or unexpected on the part of most people), the observer will perceive the cause of behavior as internal to the actor, the result of dispositional factors such as personality traits or motivation."(Green, 1981:103-4)

Shaver (1978-79:101) suggests that when no individuating information about elderly persons is available, people will assume that elderly persons' behavior automatically conforms to the negative expectations drawn from popular wisdom. Green (1979) found that when individuating information about an elderly person's behavior is consistent with the general negative stereotype, it will still be interpreted as caused by age, rather than by internal traits that the person may have possessed throughout his or her life.

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[8] The attribution theory is used to explain the differences in perceptions of the elderly obtained in studies using the general stimulus group versus those using the individual stimulus person. Since it is not the intention of the present investigation to explain such differences, this theory will only be discussed briefly.

Several studies have supported the contention that there are general expectations associated with different age groups and that age is expected to influence and constrain a wide variety of adult behaviors (Brown, 1977; Cameron, 1973; Neugarten et al., 1965; Wood, 1971). Others, however, have found no generalized expectations of the elderly (Baffa and Zarit, 1977; Bell and Stanfield 1973a; 1973b; Crockett et al., 1979; Sherman et al., 1978; Weinberger and Millham, 1975). In agreement with most of the atheoretical studies, these studies, using the premises of attribution theory, report inconsistent results. Nevertheless, the work of Connor and Walsh (1977) shows that theory has a practical significance and it is to its development, as it applies to the present investigation, that we now turn.

III. Theory and Rationale

A. Modernization Theory

The theoretical basis of this thesis lays in the aging and modernization theory which is grounded in the more general modernization theory. This theory argues:

> ...that with modernization the family type moves from extended to nuclear, with an accompanying breakdown of the larger, supportive kin group. Individuality is emphasized over tradition and authority, and although parent-child relations are intense when children are young, children are assumed to break with parental authority upon reaching adulthood. At that time, geographic and social mobility, achievement based on individual merit rather than on inherited status, and a world where family is sharply separated from other spheres of life contribute to a situation where the family is of far less importance than in traditional society. Older people are particularly affected by these changes, and their status in the family is alleged to decline (Rosenthal 1983:3).

Testing of this theory usually involves cross-cultural comparisons of several societies differing in level of industrialization or focuses on a single society in various phases of its economic development. These studies usually conclude that the status of the elderly relative to that of other age groups diminishes with a shift from an agricultural to an industrial economy, or from a *traditional* to a *modern* social system (Bengtson et al., 1975; Cottrell, 1960; Cowgill, 1981; Cowgill and Holmes, 1972; Maxwell, 1970; Ogburn and Nimkoff, 1940; Palmore, 1975; Palmore and Manton, 1974; Simmons, 1945). Rhoads (1984), however, found that the status of elderly Samoans did not decrease when Samoa underwent rapid and extensive societal changes.

At the social psychological level, the aging and modernization theory stresses the ways in which individuals act according to the norms and expectations surrounding their various roles. At the individual-level the modernization thesis stresses the importance of social roles, in particular, the work role which is directly related to social status (Rosenthal, 1983:10). Modernization theory also employs a static definition of culture, tied to role theory, which has negative implications for older people (Rosenthal, 1983:11). Both structural functionalist role theory and a static view of culture assume that behavior and norms coincide and that individuals act in accordance with cultural rules and adjust to rather than shape or alter the socio-cultural reality (Rosenthal, 1983:11). In this view individuals are seen as having relatively little capacity, if any, to act outside or in contradiction to the bounds and dictates of culture (Rosenthal, 1983:11). The theory implies that since people are held to behave according to cultural rules, and as ethnic groups are more traditional than Anglos, older people in ethnic groups enjoy a favored position. As ethnic groups assimilate, however, they acquire new Anglo rules, lose ethnic culture, and view older family members less favorably (Rosenthal, 1983:11).

The aging and modernization theory was first formally outlined by Cowgill and Holmes (1972). They found that agricultural societies, extended families, stable residence patterns, and availability of valued roles for the elderly correlated with high status of the elderly. Literacy, retirement, residential mobility, predominance of the nuclear family, and rapid social change correlated with modernization and lower status for the elderly. Cowgill (1974:127) revised the theory and postulated the following definition of the term modernization:

> Modernization is the transformation of a total society from a relatively rural way of life based on animate power, limited technology, relatively undifferentiated institutions, parochial and traditional outlook and values, toward a predominatly urban way of life, based on inanimate sources of power, highly differentiated institutions matched by segmented individual roles, and a cosmopolitan outlook which emphasizes efficiency and progress.

The four most salient variables in the modernization process with regard to the status of the elderly are:[9]

1. **Modern health technology** which leads to (a) increased longevity, (b) aging of the population, (c) generational competition, and (d) retirement. Each condition contributes to the next, that is increased longevity leads to aging of the population, which leads to generational competition and retirement. This causal chain ultimately results in lower status for the elderly.
2. **Modern economic technology** which brings (a) new occupations, (b) opportunities for the young, (c) obsolescence of skills and jobs for the the elderly, and

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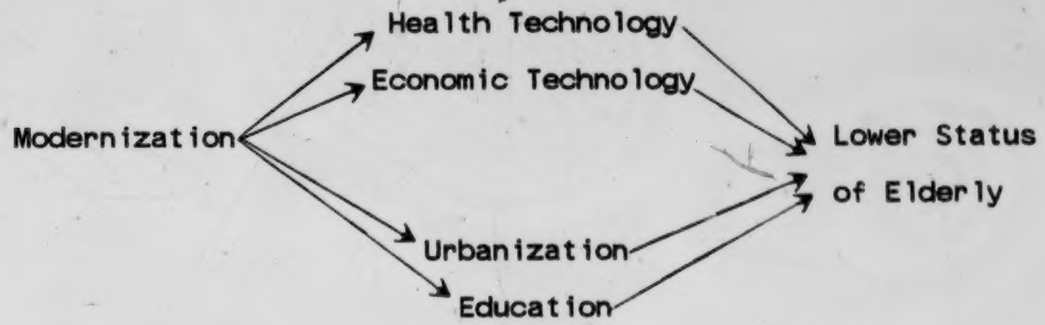
[9] (as outlined by Rhoads, 1984:247-248; see also Cowgill, 1981:23-26).

(d) retirement. In short, modern economic technology results in the young acquiring new skills and having access to jobs not available to the elderly.

3. **Urbanization** contributes to both geographic and social mobility. Migration in turn encourages the nuclear family unit, which consequently affects the nature of intergenerational relationships. When geographic mobility is low, reciprocity in patterns of care within the family are more likely. Children are cared for by grandparents and other relatives rather than by paid babysitters and daycare centres. Children learn as they grow up that they have incurred an obligation to care for elderly family members. Social mobility, according to Cowgill, leads to children occupying status positions which are higher than their parents. This leads to increased social distance between the generations.
4. **Education**, although tied to social mobility, is proposed to have a special impact on the elderly. Literacy and mass education lead to status inversion since children receive more education than their parents. This intellectual generation gap is conducive to lower status for the elderly.

Cowgill (1981:23) models the most salient aspects of the aging and modernization theory as follows:



The result of these factors, according to the modernization theory, is that the more modernized the country or community the more older people are geographically, socially, and emotionally isolated from their children. In addition, when status is conceptualized in terms of prestige, which the aging and modernization theory does, the status of the elderly may decline even though their health and income improves.

B. Criticisms of the Modernization Theory

Rosenthal (1983:12) states that research on aging and the elderly should move beyond the assumptions of the modernization theory. That is to say, it should not be assumed that ethnic families fit the model of traditional families and provide higher levels of support to older relatives than Anglo families who are equated with more modern families. To equate ethnicity with traditional values would be to imply that ethnic families are less advanced on the road to modernization than Anglo families and that ethnic culture is somehow pre-industrial (Rosenthal, 1983:6). Along this line of reasoning, Ethnic culture may be different from Anglo culture, but it is no less modern. Rosenthal (1983:12) thus feels that this theory should be used explicitly in hypothesis testing which necessitates comparative data on both Anglo and ethnic families.

The modernization theory has also been criticized for romanticizing the position of the elderly in days gone by. The theory assumes that older people once had a more important place in society and in the family than they currently occupy (Rosenthal, 1983:4). Modernization and urbanization are seen as demons which have tarnished a golden past. The tendency to glorify the past is commonly called *ubi sunt*, literally where have they gone or "the world we have lost syndrome" (Laslett, 1965).

In the good old days the elderly were seen as being highly valued, playing important roles both within and beyond the family, living with their children in multigenerational households, and being part of extended families on which they could count for emotional support and whatever assistance they might need (Rosenthal, 1983:4). In contrast the present is viewed negatively and is filled with what gerontologists call myths about aging and the elderly: the myth that adult children abandon their aging parents and dump them into institutions; the myth that elderly people are alienated and isolated from their children; the myth that a "generation gap" exists between generations in the family; the myth that governments provide more care to the elderly than families do; and the myth that the growth of the formal service sector has undermined family responsibility to older people (Bengtson 1975; Brody, 1981; Nydegger, 1982; Shanas, 1979b)

Views of both the past and the present assumed by the modernization theory have been challenged by Peter Laslett (1976; 1977; cited in Rosenthal, 1983:4). His historical work on England[10] suggests that the household and family status of the elderly was not very high in the past, nor were the elderly highly integrated into the family. Then as now, the elderly in upper class families held high status because of economic security and control. Upper class families, however, were and are a minority. As pointed out by Rosenthal (1983:4), when contrasting the past with the present we must not confuse class differences with historical social change.

When the family was the unit of economic production, the dependence of the young on the old for economic resources undoubtedly led to tension, strained affection, and repressed or overt conflict (Rosenthal, 1983:4). Le Roy Ladurie (1976) states that in pre-industrial Languedoc when murder was committed the first to bear suspicion were family members, and older people were four times as likely to be murdered as younger people. Stearns (1976:38; cited in Rosenthal, 1983:4) notes that when younger people are not dependent on their parents for economic security and inheritance, they are less likely to view them as miserly or to hope for their demise.

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[10] Other cultures may provide better examples of extended families.

Stearns (1981:298) states that writing the history of the elderly as a story of deterioration is simplistic and patronizing to the elderly who are regarded as helpless victims. In a comparison of differences in the modern history of old age in France and the United States, he highlights the importance of cultural factors in the basic position of the elderly. He addresses both the modernization of the social-economic-political environment and the modernization of mentalities, that is the values applied to the elderly by those who deal with them, the values people comptemplating old age apply to themselves, and the values the elderly apply to themselves.

When speaking of pre-industrial society Stearns (1981:299) says that "almost all european historians who have touched on the status of the elderly agree that it was not good." Even though property control was the elderly's strongest asset, many were "driven to retire amid hostile pressure from their eager heirs," and were "left driving careful bargains to assure provision for their bare maintenance in a cottage with a garden plot" (Stearns, 1981:299).

Pre-industrial society was neither a youth- nor a geriatric-oriented culture. The young were not admitted to seats of power, nor did the old benefit from "special veneration of the venerable" (Stearns, 1981:299). The culture was not tolerant of the elderly nor of old age as a stage of life (Stearns, 1981:299). The elderly were viewed as foolish, petty, selfish, miserly, and in a state of physical decline (Stearns, 1981:300). This pessimism was reinforced by the advance of science which discovered that the elderly brain atrophies (Stearns, 1981:300).

The increased longevity of females and the drop in marriage age (resulting from decreased dependence on inheritance) resulted in widows residing with younger kin (Stearns, 1981:302). The expansion of household units is one of the most important behavioral changes in the 19th century history of the elderly (Stearns, 1981:302-303). Improvements in infant mortality rates led to the increased cultural and economic importance of youth. The elderly became less significant economically, not only because they declined as a percentage of the workforce, but also because the importance of property control diminished for large segments of the population (Stearns, 1981:303). There were greater opportunities for young people to be self-sufficient and to abandon their reliance on inheritance. The youth migrated to the cities to take industrial jobs, while the elderly remained in the more traditional sectors of the economy, for example, agriculture and small businesses. On the whole the elderly "did not have to/were not able to/or were not allowed to adapt to the new industrial economy" (Stearns, 1981:301). The economy of the elderly still depended on property and it was among the propertied that elderly power relations could still be maintained. The elderly were not economically modernized as a group, that is assimilated into the new modern industrial economy, and given the subsequent development of retirement, they never have been (Stearns, 1981:302).

Demographically the elderly have been gaining as a percentage of the population since the decline in birth rate increase in the 19th century and with their own improved longevity. Stearns (1981:307) concludes that demography, medicine, and economic change contributed to cultural change, which led to improved optimism regarding old age. He views "cultural causation" as the "principal force" in the behavior and outlook toward aging and the elderly (Stearns, 1981:307).

Neysmith and Edwardh (1983) contrast modernization theory with "dependency theory." They argue that

> ...modernization theory blames underdevelopment on the characteristics of people, rather than on the economic and social relations which bind the Third World to the industrial world. We believe that it is dependency theory, which offers a global or world systems approach, that clarifies the dialectic among economic relations or capital accumulation, social organization and well-being or pathos in individual lives. It is the means by which we can understand why old people live as they do in Third World countries (Neysmith and Edwardh, 1983:129-130).

Amoss (1981a; 1981b) challenged the application of the modernization theory. She looked at the status of the elderly among the Coast Salish Indians of British Columbia and Washington State. She concludes that when the elderly were a relatively large group proportionately their status approximated the low status of the aged in the larger North

American society. With advancements in health care, however, the fertility rate increased, the elderly declined as a proportion of the total population, and their traditional knowledge came to be perceived as a major contribution to the maintenance of the Salish identity.

Vanderburgh (1987) applied the modernization theory to a small portion of an Indian 'nation,' the Anicinabe of the Georgian Bay area in Ontario. In days gone by the Anicinabe elders were repositories of knowledge, essential cultural information, and responsible for transmitting that information to the grandchildren. Christian missions and schools, however, eroded the role of the elders as transmitters of vital survival information. By the 1960's the elders were no longer vital contributing members of the Native society, but were reduced to the status of a liability (Vanderburgh, 1987:104). In 1974 the Ojibwe Cultural Foundation (OCF) was started to implement a Native language curriculum in the elementary schools. Organizers realized what an important resource the elders were and worked to revive the role of the elders as storytellers and purveyors of religious beliefs. Vanderburgh's research indicates that the status of the elderly does not follow the strict guidelines of the aging and modernization theory.

Foner (1984:203) argues that cross-cultural data from modernizing non-industrial societies indicates that a decline in the status of the elderly is not inevitable, and that Cowgill's revised model is too simplistic, in that it does not take into account the multidimensionality of the overall status of the elderly.

Criticisms aside, many studies support the aging and modernization theory (Burgess, 1960; Chandler, 1949; Cowgill, 1968; Harlan, 1968; Maxwell and Silverman, 1971; Parsons, 1942; Shelton, 1965; Simmons, 1946; Streib, 1968b). That is to say pre-industrial (mechanical) societies have the most positive attitudes and industrial (organic) societies have the most negative attitudes toward the elderly. In other words, these studies support the notion that in simple societies the elderly are held in higher regard because they possess knowledge and skills which are necessary to the smooth operation of the entire society. In more industrial societies the elderly do not perform necessary functions, and, consequently, they are not regarded as positively as they are in more primitive societies. Other studies, however, have found that the elderly do not necessarily occupy a favorable position in unindustrialized countries (Arth, 1968; Harlan, 1968; Haynes, 1962a; 1962b).

In his own defense Cowgill (1981:26) states that the theory as initially expounded was over simplified; that there was a decline in the status of the elderly as societies moved from agrarian-agricultural societies to industrial societies; that this status change has not been unilinear in the wider sweep of history; that the status of the elderly was highest in advanced agricultural societies--higher than in pastoral or hunting and fishing societies; that as we move into the post-industrial phase, the status and condition of the elderly is rising and will continue to rise; and that he will be reformulating the theory.

C. Individual-Modernity Theory

Bengtson et al., (1975:689) distinguish between modernization and modernity. Where *modernization* refers to a societal or macro-social process (gross national product, per capita industrial employment, and degree of westernization) and *modernity* refers to properties of individuals (exposure to technology, urbanization, and industrial experience) within societies regardless of the degree of modernization of those societies. These researchers tested the hypothesis that favorable attitudes toward aging and the elderly are inversely related to both individual modernity and societal modernization within the context of developing nation-states. They analysed data on 5450 males from Argentina, Chile, India, Israel, Nigeria, and Bangladesh.

The anticipated more positive evaluation of aging and the elderly by urban factory workers versus rural cultivators was not supported by their data. They did, however, find evidence to support the modernization hypothesis. The three most modern societies- Israel, Argentina, and Chile- had the lowest proportion of pro-aging responses. They thus conclude that within each society the effects of societial modernization on individual modernity and the consequent effects of modernity on attitudes toward aging and the elderly are negligible.

D. Rationalization of Present Investigation

Following from the work of Bengtson et al., (1975) this investigation will make the distinction between modernization and modernity. By definition the term modernization refers to various societal processes at the macro-level of analysis: urbanization, literacy, social mobility, mass media communication, a mature industrial plant, and a democratic polity (Portes, 1973; cited in Bengtson et al., 1975:694). The main focus of this investigation, however, will be on the micro-level modernity theory. Marshall (1987:45) states that "ideally micro-level phenomena should be interpreted in terms of macro-level contextual features and that, conversely, macro-level phenomena should be viewed in light of their significance for and impact on micro-velvel phenomena." While this researcher agrees with Marshall, it is not always possible to achieve our ideals and consequently this investigation of individual-level data will be guided by micro-level theory. Individual manifestations of modernity such as kinship contact, value orientations, and socio-economic status will be examined in this study. In addition to the micro-level manifestations of modernity, the effects of knowledge about the elderly will also be considered.

The hypotheses being tested are as follows:

Hypothesis 1: It is hypothesized that an inverse relationship exists between individual modernity and attitudes toward old age.

Following from previous research it is anticipated that those with greater kinship contact, those with more traditional values, and those with a lower socio-economic status, will have more positive attitudes toward old age.

Hypothesis 2: It is hypothesized that a) a positive relationship exists between knowledge about the elderly and attitudes toward old age; and b) knowledge will act as an intervening variable between the indicators of individual-modernity and attitudes toward old age.

This hypothesis follows from research which attempts to improve attitudes toward old age by providing seminars on facts about the elderly (Glass and Trent, 1980; Murphy-Russell et al., 1986; Trent et al., 1977; Wilson and Hafferty, 1980).

In addition to variables selected to test the above mentioned hypotheses, variables measuring personal characteristics of the respondents will be included in this investigation to act as control variables and to serve as referents back to previous research in this field. These effects will be tested employing Pearson correlations and multiple regressions. As a final summary analysis, a path model will be constructed to illustrate the effects of intervening variables.

IV. Methodology

A. Survey Design

The 1981 Edmonton and Winnipeg area surveys were choosen for this analysis because a series of questions dealing specifically with attitudes toward old age,[11] and knowledge about the elderly were asked in that year. Furthermore, the results from these questions have not yet been analyzed. In addition, an accurate comparison between these two western Canadian cities is possible because the same questions were asked in 1981 for both Edmonton and Winnipeg.

The 1981 Edmonton Area Study was the fifth in an annual series administered and supported by the Population Research Laboratory and the Department of Sociology at the University of Alberta, and the 1981 Winnipeg Area study was the first study of its kind administered by the Department of Sociology at the University of Manitoba. The two studies used identical sampling designs, questionnaires, data collection methods, coding procedures, and data screening techniques.

In both communities, up-to-date municipal records were used to generate simple random samples. Household addresses were the primary sampling units and nursing homes and temporary residences were deleted from the sample. The final samples represented response rates of 75% for Edmonton and 74% for Winnipeg. Guidelines were set and followed to ensure that an equal number of males and females were selected. Respondents had to be 18 years of age or older and residing at their usual place of residence.

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[11] No theory guided the placement of these attitude items on the Edmonton and Winnipeg Area Surveys and no bibliographic source for these items is available.

B. Data Collection

All households were sent an introductory letter a week prior to interviewing. All interviews were conducted face-to-face. Call backs were used when an unsuccessful initial attempt occurred. In Edmonton 12 addresses were found to be vacant or were demolished buildings. These addresses were replaced by other random selections. All completed interviews were randomly verified by re-contacting respondents by telephone. No significant discrepancies or irregularities were revealed in the interviews.

C. Variables

Table 1 shows the frequencies, means, and standard deviations for each of the independent variables. Several variables have been selected as indicators of individual modernity. Indicators of literacy and socio-economic status are Education and Household Income. Three variables Children in the Household, Elderly Relatives in the Immediate Family, and Marital Status, have been choosen as measures of kinship contact. Value orientation is measured by Rural/Urban

Upbringing,[12] Religiousity, and Ethnicity. Personal characteristics selected for this analysis, as control variables, are Age, Sex, and Perceived Health Status. The decision to include Health Status is based on previous research which shows Physical Health to be a strong predictor of attitudes toward old age held by the elderly (Collette-Pratt, 1976; Jeffers et al., 1961; Preston, 1968; Rosencranz, 1966; Tuckman and Lorge, 1958b).

Personal Characteristics

Age. In Edmonton the mean age was 40, while in Winnipeg the mean age was slightly higher at 43. Age is recoded into three dummy variables termed *Young* (18-39), *Middle-aged* (40-65), and *Old* (65+). The decision to categorize age is based on previous research which suggests that attitudes toward a particular life stage such as old age are influenced by the life stage of the respondent (Borges and Dutton, 1976; Harris, 1975; Tuckman and Lorge 1953b).

Sex. In Edmonton 51.5% were female and 48.5% were male. Winnipeg's sample was not as equally distributed between the sexes with 59.0% female and 41.0% male.

Perceived Physical Health Status. Respondents were asked how healthy they felt physically in the last twelve months on a seven point item ranging from very unhealthy to very healthy. The mean score for the Edmonton sample is 5.5 compared to 5.3 for the Winnipeg sample.

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[12] It would, of course, have been better to test the differneces between urban and rural current residences, however, the surveys used in this investigation are of urban populations.

Perceived Overall Health Status. Respondents were asked how they would rate their overall health on a four point scale ranging from poor, fair, good, to excellent. The mean score for the Edmonton sample at 3.1 is not much different from Winnipeg's 2.99.

Kinship Contact

Marital Status. In Edmonton 22.0% were never married, 65.0% were married or living in a common-law relationship, 6.2% were widowed, and 7.0% were separated or divorced. In Winnipeg 21.0% were never married, 59.0% were married or living in a common-law relationship, 11.0% were widowed, and 9.0% were separated or divorced. Marital Status is coded as four dummy variables representing each of the main marital categories: Never Married; Married; Separated or Divorced; and Widowed.

Children in the Household. Respondents were asked how many children lived in the household. The Edmonton sample has an average .77 children, while the Winnipeg sample has .85. The percentage of households with no children is larger in Edmonton, 60.7% compared to 57.1% in Winnipeg.

Number of Relatives Over the Age of 65. Respondents were asked how many relatives over the age of 65 they had in the immediate family.[13] The Edmonton sample has an average number of elderly relatives of 1.6, while the Winnipeg sample has an average of 1.5 elderly relatives.

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[13] While it is recognized that a better measure of kinship contact might have asked whether the quality of the contact

Contact With Elderly Relatives. Respondents were asked how often they saw, in order of importance, each of their elderly relatives. Since most respondents had at least one elderly relative whom they had contact with, this item is treated as one indicant of contact, Contact With Most Significant Elderly Relative. In addition, an overall index of contact composed of the summative score of the five contact variables is treated as a second indicant of contact, termed Contact With All Elderly Relatives. Contact with elderly relatives is measured on a seven-point scale ranging from daily, weekly, monthly, several times a year, yearly, less than once a year, to never. This ordinal measure is treated as an interval level scale (never=0, less than once a year=1, daily=7). For Contact With Most Significant Elderly Relative, the Edmonton sample has a mean response of 3.1 compared to Winnipeg's 3.3. For Contact With All Elderly Relatives Edmonton's mean response is 9.4, compared to Winnipeg's 9.7.

Value Orientation

Religiousity. Those designated as Protestant fall into the following categories: Anglicans, Baptists, Lutherns, Mennonites, Mormons, Pentecostals, Presbyterians, Salvation Army, United Church, Prostestant unspecified, and Christain

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[13](cont'd) was negative, neutral, or positive, the analysis is restricted to the questions available in the data sets.

unspecified. Catholics include Roman, Greek, and Ukrainian Orthodox. In the Edmonton sample 49.2% are Protestant, 31.5% are Catholic, 5.3% are Other, and 14.0% claim no religious affinity. For Winnipeg 48.5% are Protestant, 29.2% are Catholic, 7.3% are Other, and 15.0% claim no religious affinity. Catholics, Protestants, and those with No religious affiliation are treated as dummy variables with the Other group serving as the referent category.

Ethnicity. In Winnipeg 52.4% of the sample identified themselves as being Canadian, American, or of the United Kingdom, compared to 64.5% of the Edmonton sample. Respondents classifying themselves as Other-Canadian, for example Polish-Canadian, represent 7.0% of the Edmonton sample and 8.0% of the Winnipeg sample. Those identifying themselves with some other ethnic group constitute 28.0% of the Edmonton sample and 38.4% of the Winnipeg sample.

Anderson and Frideres (1981:45) state that ethnicity has been carelessly overemphasized in the literature. Rosenthal (1983:2) summarizes the use of ethnicity in two main categories: 1) ethnicity has been viewed primarily as immigrant culture where the ethnic family is ranked as traditional and the Anglo family is ranked as modern; and 2) ethnicity has been viewed as a determinant of social inequality where "differential access to societal rewards can be related to a model of ethnic change and persistence in families as explained by the relationship of ethnicity to social class and social conflict." In the questions analysed in this investigation no measure is given of the number of generations that the respondent's family has lived in Canada. Thus the degree of ethnicity is determined only by the nominal category that the respondent identifies with. For instance, a recent immigrant to Canada may be so pleased to be a Canadian that he/she identifies with the category Canadian. On the other hand someone who is a third or forth generation Canadian may identify with his/her more colourful heritage and identify with the category of German or Irish when they are no more German or Irish than a Russian. Such are the perils of secondary data analysis. Flaws recognized, the point is made that in this investigation, when the term ethnicity is used it refers to the ethnic identity of the respondent and not necessarily to the individal's adherence to ethnic traditions or belief systems. Ethnicity is treated as an ordinal-level measure with Canadians=1, Other-Canadians=2, and Others=3.[14]

Rural/Urban Upbringing. Respondents were asked the size of the place in which they lived up to the age of 16. Defining rural areas a locations with less than 10,000 inhabitants, 41.0% of the Edmonton sample had urban, and 45.7% had rural childhoods; 13.3% did not respond to the question. The Winnipeg sample had 30.4% with urban upbringing, 42.3% with rural, and 27.4% did not respond to this question. In order to measure the incremental nature of a rural/urban continuum this variable is coded from one to eight (rural-farm=1, rural-nonfarm=2, town under 1,000=3, town 1,000-9,999=4, city 10,000-49,999=5, city 50,000-99,999=6, city 100,000-499,999=7 and city 500,000+=8).

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[14] Although it is not necessarily believed by this researcher that Anglos are less ethnic than others, the decision to place those from the United Kingdom into the lowest ordinal-level category is based on previous research. Rosenthal, (1983:8) states that in Canada 43.7% of the population is of British ancestry (England, Scotland, Wales) and here Anglo refers to a particular ethnic group.

Socio-Economic Status

Education. In Edmonton the mean number of years of schooling was 12.7 and in Winnipeg the mean number of years of schooling was 12.1. Results of previous research using Education as a predictor of attitudes toward old age and the elderly tend to categorize it into educational divisions such as secondary, post-secondary technical, post-secondary university, and university graduate education. Believing that years of education does not adequately reflect these education plateaus, Education is coded into the major educational categories and used as an ordinal level measure (elementary=1, high school=2, university=3, master's=4, doctorate=5).

Income. Eighty-seven percent of the Edmonton sample and 88% of the Winnipeg sample provide their gross household incomes. The median household income in Edmonton is in the $25,000 to $25,999 range and in the $26,000 to $26,999 range for Winnipeg. Mean incomes are $27,280 for Edmonton and $22,910 for Winnipeg.

Knowledge About The Elderly

Knowledge about old age and the elderly was tested by asking respondents questions originally used on Palmore's (1977) Facts on Aging Quiz.[15] Respondents were asked whether they thought the following statements were true or false:

1. At least one-tenth of the aged are living in long-stay institutions, i.e., nursing homes, mental hospitals, homes for the aged, etc.
2. The majority of old people are seldom bored.
3. The majority of old people are socially isolated and lonely.
4. More than 15% of the Canadian population is now age 65 or older.
5. Most old people are set in their ways and unable to change.
6. The majority of older people live in poverty.
7. Older people tend to become more religious as they age.
8. Old people usually take longer to learn something new.
9. The majority of old people are seldom irritated or angry.

The original quiz consisted of twenty-five facts on aging, all of which have documented correct answers. Research using the quiz has revealed that the following items are consistently missed (Holtzman and Beck, 1979; Klemmack, 1978; Palmore 1977): the percentage of old persons in the population; the percentage in long-stay institutions; the extent of official poverty among the elderly; the amount of boredom old people experience; and changes in religiousity with age (Lutsky, 1980:292). In contrast people usually reject the following items: that old people have no interest in or capacity for sexual relations, that most are senile, and that it is impossible for old people to learn new things. This last item was modified in this quiz to read "Old people usually take longer to learn something new." The percentages of correct responses for each item are presented in Table 2. Due to restrictions of the surveys used in this investigation, only nine of Palmore's original twenty-five items were employed. The items included are precisely the ones that respondents typically get wrong.

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[15] The original statements were adjusted to reflect the situation of the elderly in Canada. Palmore's original questions were based on the status of the elderly in the U.S.A.

Cronbach's alpha for the knowledge items reveals that the inter-item reliability for the nine knowledge items is .22 for Winnipeg and .32 to Edmonton. Elimination of variable 416 "Old people usually take longer to learn something new," however, increases the inter-item reliability to .32 for Winnipeg and .41 for Edmonton. For this reason and because this item is one that people traditionally get right, variable 416 will be removed from the analysis.[16]

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[16] Reliability and validity of the knowledge items will be discussed in more detail later.

Attitudes Toward Old Age

Attitudes toward old age were tested by asking respondents to rate the following statements on seven-point response categories scale ranging from strongly disagree to strongly agree:[17]

1. Old age can be the happiest time in the life of a person.
2. Old age is a time of loneliness.
3. Nobody really cares about older people these days.
4. People who are unhappy in their old age have nobody to blame but themselves.
5. Except for your health, being old is not much different than being young.
6. You just can not have a good time when you are older.
7. If you had enough money to live on, you can really enjoy your free time when you are older.
8. Lots of nice things happen to people who are older.

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[17] Reliability and validity of the attitude items will be discussed in more detail later.

TABLE 1

Selected Independent Variables: Categories, Frequencies, Means, and Standard Deviations

1981 Edmonton and Winnipeg Area Surveys

Variable	Response Categories	Winnipeg Frequencies	Edmonton Frequencies	Winnipeg Mean	Edmonton Mean	Winnipeg Standard Deviation	Edmonton Standard Deviation
Age	Years	18-84	17-86	43	40	17.28	16.42
	Young 18-40	171	239	.51	.60	.50	.49
(Dummy Variables)	Middle 41-65	112	116	.33	.29	.47	.45
	Old 65+	52	44	.15	.11	.36	.31
Sex	Male (1)	137	194	1.59	1.51	.49	.50
	Female (2)	199	206				
Upbringing	rural-farm (1)	60	93	4.24	4.37	2.53	2.59
	rural-nonfarm (2)	14	3				
	under 1000 (3)	26	44				
	1,000-9,999 (4)	42	43				
	10,000-49,999 (5)	16	35				
	50,000-99,999 (6)	11	18				
	100,000-499,999 (7)	45	58				
	500,000 + (8)	30	53				
Marital Status (Dummy Variables)	Never Married	72	86	.21	.21	.41	.41
	Married	198	261	.59	.65	.49	.48
	Widowed	37	25	.11	.06	.31	.24
	Separated or Divorced	29	28	.09	.07	.28	.25
Children in the Household	No (0)	0=192	0=243	.43	.39	.50	.49
	Yes (1)	1=144	1=157				
Number of Persons Over 65 in the Immediate Family	Number	0=91	0=104	1.52	1.56	1.33	1.36
		1=92	1=112				
		2=73	2=93				
		3=49	3=52				
		4=19	4=27				
		5=9	5=9				
			6=3				

Table 1 continued

Total Household Income	1,000 increments	5,000- to 50,000+	5,000- to 50,000+	22.91	27.28	13.73	14.32
Education	Elementary (1) High School (2) University (3) Master's Degree (4) Doctorate Degree (5)	24 174 117 7 9	30 209 141 9 11	2.40	2.40	.77	.78
Religion (Dummy Variables)	Catholic Protestant	98 163	126 197	.29 .50	.31 .49	.46 .50	.46 .50
Ethnicity	Canadian (1) Canadian-Other (2) Other (3)	1=176 2=27 3=129	1=258 2=28 3=112	1.86	1.63	.95	.89
Perceived Physical Health Status	Very Unhealthy (1) Very Healthy (7)	1=9 2=10 3=22 4=36 5=72 6=113 7=72	1=4 2=10 3=19 4=42 5=89 6=143 7=93	5.33	5.51	1.47	1.31
Perceived Present Health Status	Poor (1) Fair (2) Good (3) Excellent (4)	1=15 2=50 3=192 4=77	1=9 2=68 3=212 4=111	2.99	3.06	.75	.73
Contact With Most Significant Elderly Relative	Never= (1) Less often= (2) Annually= (3) Several times a year= (4) Monthly= (5) Daily= (7)	1=102 2=50 3=54 4=0 5=56 7=19	1=113 2=60 3=92 4=4 5=63 7=14	3.27	3.15	2.07	1.92
Contact With All Elderly Relatives	5 to 30	5=99 18=3 6=19 19=3 7=31 20=3 8=5 21=5 9=36 22=1	5=110 18=2 6=24 19=5 7=48 20=3 8=14 21=4 9=39 22=1	9.69	9.36	4.88	4.54

Table 1 continued

		10=22	23=1	10=33	23=1				
		11=22	25=1	11=39	24=1				
		12=7	25=1	12=2	25=2				
		13=25	26=0	13=25	26=0				
		14=13	27=0	14=10	27=0				
		15=17	28=1	15=12	28=0				
		16=3	29=1	16=5	29=0				
		17=11	30=1	17=12	30=1				

TABLE 2

Percentage of Correct Responses to Questions Regarding Knowledge about the Elderly

1981 Edmonton and Winnipeg Area Surveys

Variable	Winnipeg Percentage of Correct Responses	Edmonton Percentage of Correct Responses
var409. At least one-tenth of the aged are living in long stay institutions.	16.7%	15.5%
var410. The majority of old people are seldom bored.	20.8%	21.0%
var411. The majority of old people are isolated and lonely.	36.9%	36.2%
var412. More than 15% of the Canadian population is now age 65 or older.	14.6%	15.7%
var413. Most old people are set in their ways and unable to change.	23.8%	26.7%
var414. The majority of old people live in poverty.	58.6%	54.0%
var415. Older people tend to become more religious as they age.	38.1%	37.0%
var416. Older people usually take longer to learn something new.	64.9%	63.5%
var417. The majority of old people are seldom irritated or angry.	27.4%	28.7%

D. Measurement Reliability and Validity

Validity refers to the degree to which empirical indicants measure what they are supposed to measure (Kerlinger, 1973:457). The most commonly used types of validity in social science research are criterion-related and content validity. Criterion-related validity is determined by the strength of association between a measure and a given criterion. For example, how well do the items on Palmore's Facts on Aging quiz actually measure knowledge about the elderly?

Klemmack (1978:405) questioned the criterion-validity of the Palmore Quiz. He reported inconsistency in item to total score correlations as well as an evaluative factor in the scale. The evaluative factor suggests that the quiz may be measuring bias toward the elderly and not necessarily knowledge. The inconsistent item to total score correlations suggest that the Quiz may not be a measure of the construct 'Knowledge,' but only a measure of individual facts. According to Lutsky (1980:292), the quiz's purported outcome, a criterion-based measurement of knowledge about aging, may be confounded with general knowledge or intelligence and the demand characteristics of individual items.

Although there are problems with the criterion-validity of the Palmore quiz, the content, or face, validity of both the knowldege and attitude items appears to be good. That is to say, the items are judged to be measuring the concepts of knowledge about the elderly and attitudes toward old age, respectively.

Problems are also recognized with the content validity of the measures for kinship contact and value orientation. Responses for the measures of contact with elderly relatives could very well be inflated due to the self report nature of the data. In addition, the health indicants are obtained from single questionnaire items and could reflect response set rather than true health status. As previously stated, however, these are the best indicators available.

Reliability is also employed to test the usefulness of specific measurement indicants. Reliability refers to the repeatability and consistency of empirical measurements (Zeller and Carmines, 1980:52). Cronbach's alpha is often used to calculate the internal consistency among measurement items. The Cronbach alphas for the modified version of Palmore's Facts on Aging Quiz used in this study are .41 for Edmonton and .32 for Winnipeg. This low alpha indicates that there is a low degree of internal consistency within this knowledge index. In contrast the Cronbach alphas for the attitude items are .68 for Edmonton and .64 for Winnipeg. Although these alphas indicate greater internal consistency for the attitude items than for the knowledge items, their strength is moderate.

It is believed that differences in the administration of the surveys and in the personnel used to collect the data affect the reliability of the data. As noted, this survey was the first one of its kind conducted by the University of Manitoba, while the University of Alberta had had five years experience with such surveys. Another difference, suspected to affect the reliability of the data, is the different type of surveyors employed by each department. The University of Alberta employed paid personnel, while the University of Manitoba relied on volunteer students, who might not have been as rigorous in their data collection.

Evidence supporting this suspicion is that the requirement that an equal number of males and females be interviewed was not met by the Winnipeg surveyors. In Winnipeg 59% of the respondents were female and 41% were male, while in Edmonton the split was 51/49. It is also noted that 27% of the respondents did not answer the question concerning rural/urban place of residence as a child in Winnipeg compared to the 13% who did not respond to this question in Edmonton. Therefore, it is suspected that weaknesses in the survey methods threaten the reliability of the results obtained by the present investigation.

Despite the noted problems with measurement reliability and validity, the foregoing items are the one employed in the surveys and as such are the ones which will be examined in this investigation.

E. Statistical Methods

The hypotheses that personal characteristics, kinship contact, value orientation, socio-economic status, and knowledge about the elderly will predict attitudes toward old age will be tested statistically using multiplicative regression techniques.

Factor Analysis

Before the multiple regression analyses were carried out, however, the attitude items were factor analysed to reduce the eight attitudinal items into a smaller number of reliable attitude indices. This procedure was choosen because the items themselves were not unidimensional. The decision to employ factor analysis was supported by previous research which demonstrates the multi-dimensional nature of attitude evaluations (Cunningham, 1978; Hickey, Radowski et al., 1978 Kilty and Feld, 1976; McConnell, 1977; McConnell and Verdugo, 1976; Morgan and Bengtson, 1976; Naus, 1973; Rosencranz and McNevin, 1968; Thomas and Yamamoto, 1975).

Factor analysis is commonly employed to allow for the simultaneous examination of several items. The technique relys on the basic statistical correlation coefficient (Liebert and Spiegler, 1982:209). Essentially factor analysis looks at the entire correlation matrix of the items being considered. "By means of complex mathematical formulas, the data are reduced to small numbers of relatively homogeneous dimensions, called factors"(Liebert and Spiegler, 1982:209). The relationships in the original correlation matrix are used to construct a factor matrix. Each original measure loads on each factor to the extent that it is correlated with each factor. Thus individual factor scores can be calculated by summing up the scores on items which have the highest loadings on that particular factor. The resultant factors will then be regressed on the independent measures to test for results statistically significant at the .05 level or better.

Multiple Regression

Most quantitative analyses in attitude research stops at measuring correlates of attitudes toward the elderly. For instance, is health status or age related to attitudes? This investigation, however, conducted multiple regression analyses in order to determine, not only which independent variables acted as predictors of the attitude scales, but also what percentage of the variance in each of the dependent scales was accounted for by each of the predictor variables. Multiple regression was particularly useful in this investigation because, including dummy variables, each analysis considered twenty independent variables.

It was suspected that some of the independent variables that affected attitudes were likely correlated with each other. Multiple regression analysis was thus used to test the partial effects of each independent variable while holding the other independent variables constant. For example, Education and Income were correlated as were Perceived Health Status and Income. It was reasoned that if, for instance, Education accounted for 5%, Income 7%, and Perceived Health Status 3% of the variance in attitudes, because of the correlations among these independent variables, together they would not account for 5+7+3=15% of the attitude variance. Together these independent variables would likely account for less than 15% of the total variance. Thus the attitude variance accounted for by one variable would be overlapped to some degree by the variance accounted for by the other independent variables. In the example given, the individual proportions of attitude variance may turn out to be: Income 3%, Education 5%, and Perceived Health 1%. Multiple regression thus provides a more accurate picture of the extent to which each independent variable affects the variance in each attitude scale.

The first multiple regression analyses carried out were subjected to Student's T-test to identify statistically significant differences between the unstandardized slopes. The T-test was employed to determine the extent to which the effect of each independent variable on each dependent measure differed between Edmonton and Winnipeg. Next, Step-wise multiple regressions were carried out to identify the key explanatory variables for each of the attitude dimensions. The regression equations were then re-run using only the independent variables identified as important in the initial broad examination. The reduced-form multiple regression equations were then analysed as a path model to assess the mediating effect of knowledge about the elderly on attitudes toward old age.

V. Results

As discussed in Chapter III, studies using the modernization/modernity thesis traditionally look at attitudes held in countries at different stages of economic development. The purpose of this investigation, however, will be to examine the differences between two communities within the same country and to assess the relationship between: 1) individual modernity and attitudes toward old age; and the intervening effect of 2) knowledge about the elderly and attitudes toward old age.

A. T-Test

As a first step in comparing the attitudes toward aging in Edmonton and Winnipeg, the attitude items were tested for statistically significant differences between the means. The results, Table 3, indicate that Edmontonians and Winnipeggers do not differ significantly on their mean response scores, except for var372 "Old age is a time of loneliness." T-Tests on the contact measures, Table 4, and knowledge items, Table 5, also revealed no statistically significant differences between Edmonton and Winnipeg.

TABLE 3

Attitude Items: Means, Standard Deviations, T-Values, and Significance Levels

1981 Edmonton and Winnipeg Area Surveys

Item	Winnipeg Mean	Edmonton Mean	Winnipeg Standard Deviation	Edmonton Standard Deviation	T Value	Significance Level
a. var371, Old age can be the happiest time of a person's life.	4.8	4.8	1.6	1.5	-.11	.911
b. var372, Old age is a time of loneliness.	4.3	4.0	1.8	1.7	-2.27	.024
c. var373, Nobody really cares about older people these days.	3.7	3.8	1.8	1.8	.51	.609
d. var374, People who are unhappy in their old age have nobody to blame but themselves.	3.8	3.7	1.8	1.7	-1.16	.248
e. var375, Except for your health, being old isn't much different than being young.	4.6	4.7	1.9	1.7	.70	.487
f. var376, You just can't have a good time when you are older.	2.2	2.2	1.5	1.3	-.22	.829
g. var377, If you have enough money to live on, you can really enjoy your free time when you are older.	5.7	5.9	1.5	1.3	1.84	.066
h. var378, Lots of nice things happen to people who are older.	5.4	5.3	1.3	1.4	-1.71	.087

TABLE 4

Contact Measures

Mean Frequencies of Seeing Elderly Relatives, T-Values, and Significance Levels

1981 Edmonton and Winnipeg Area Surveys

Variable	Winnipeg Mean	Edmonton Mean	Winnipeg Standard Deviation	Edmonton Standard Deviation	T Value	Significance Level
Contact With Most Significant Elderly Relative	3.27	3.15	2.07	1.92	-.78	.44
Contact With All Elderly Relatives	9.69	9.36	4.88	4.54	-.95	.34

TABLE 5

Knowledge Scale:

Percentage of Correct Responses, T-Values, and Significance Levels

1981 Edmonton and Winnipeg Area Surveys

Variable	Winnipeg Percentage of Correct Responses	Edmonton Percentage of Correct Responses	T Value	Significance Level
var409, At least one-tenth of the aged are living in long stay institutions.	16.7%	15.5%	-.26	.798
var410, The majority of old people are seldom bored.	20.8%	21.0%	-1.96	.050
var411, The majority of old people are isolated and lonely.	36.9%	36.2%	.25	.802
var412, More than 15% of the Canadian population is now age 65 or older.	14.6%	15.7%	-.61	.544
var413, Most old people are set in their ways and unable to change.	23.8%	26.7%	.23	.818
var414, The majority of old people live in poverty.	58.6%	54.0%	-.39	.697
var415, Older people tend to become more religious as they age.	38.1%	37.0%	.49	.624
var416, Older people usually take longer to learn something new.	64.9%	63.5%	-.88	.381
var417, The majority of old people are seldom irritated or angry.	27.4%	28.7%	.41	.681

B. Factor Analyses of Attitudes Toward Old Age

As a second step in comparing the two cities a varimax orthogonal rotation was carried out on a factor analysis of respondents' attitudes in each city. Table 6 shows the factor loadings for the individual items. Scales were constructed for each factor by adding individuals' scores of items with high loadings on each factor. Tables 7 (Winnipeg) and 8 (Edmonton) show the clustering of the items, the frequencies, means, standard deviations, and the amount of variance which each variable explains.

Winnipeg Factor Structure

For Winnipeg, two factors emerged, one termed OptimisticW and the other PessimisticW. The optimistic dimension is represented by items reflecting a positive attitude toward old age. The following items have the largest positive loadings: a. Old age can be the happiest time of a person's life (.49); e. Except for your health, being old isn't much different from being young (.52); g. If you have enough money to live on, you can really enjoy your free time when you are older (.50); and h. Lots of nice things happen to people who are older (.75). One item had a moderate negative loading: f. You just can't have a good time when you are older (-.38), and because of the negative wording, this item is included in the pessimistic dimension. This factor, excluding var376, accounts for 55% of the total variation between the eight attitude items.

Items which emerge on the second factor, PessimisticW, are: b. Old age is a time of loneliness (.99); and c. Nobody really cares about older people these days (.36). These two items combined with f. You just can't have a good time when you are older (.17) account for 37.3% of the variation among the attitude items.

The third factor for Winnipeg is comprised solely of item d. People who are unhappy in old age have no one to blame but themselves. This item did not load strongly on either factor 1 (.08) or factor 2 (-.20). In addition, the wording of this item neither reflects a negative nor a positve attitude toward old age, but rather an individualistic attitude. For these reasons item d. forms a separate dimension, termed IndividualisticW. This item explains 10.6% of the total variation among the eight attitude items.

Edmonton Factor Structure

Three distinct factors emerged for the Edmonton sample. The first factor, termed IndividualisticE, explains 10.6% of the total variation. This factor consists of just one item, d. People who are unhappy in old age have no one to blame but themselves (.98).

The second factor to emerge, termed OptimisticE, explains 52.2% of the total variation. Items included in this factor are: a. Old age can be the happiest time of a person's life (.43); e. Except for your health old age isn't much different than being young (.35); g. If you have enough money to live on, you can really enjoy your free time when you are older (.52); and h. Lots of nice things happen to people who are older (.58).

The third factor to emerge for Edmonton, termed PessimisticE, explains 37.3% of the total variation. The items which load on this factor are: b. Old age is a time of loneliness (.65); c. Nobody really cares about older people these days (.51); and f. You just can't have a good time when you are older (.24).

Comparison of Factor Structures.

The fact that the attitude items cluster similarly for Edmonton and Winnipeg indicates that, overall, the respondents in Winnipeg perceive old age the same way as respondents in Edmonton. Nevertheless, three factors emerged for Edmonton and two for Winnipeg. Creating a third factor for Winnipeg, however, comprised of var374, enables comparability between the two cities on each of the separate dimensions. It is interesting to note that each of the dimensions explains about the same amount of variation within each city. Optimistic explains 55% of the variation in Winnipeg and 52.2% in Edmonton. Pessimistic explains 34.4% of the variation in Winnipeg and 37.3% in Edmonton. Individualistic explains the same amount of variation in each city, 10.6%.

TABLE 6

Rotated Factor Loadings on Attitude Items

1981 Edmonton and Winnipeg Area Surveys

Item	Winnipeg Factor I	Winnipeg Factor II	Edmonton Factor I	Edmonton Factor II	Edmonton Factor III
a. var371, Old age can be the happiest time of a person's life.	.49	-.28	.03	.43	-.38
b. var372, Old age is a time of loneliness	-.09	.99	-.16	-.17	.65
c. var373, Nobody really cares about older people these days.	-.19	.36	-.00	-.07	.51
d. var374, People who are unhappy in their old age have nobody to blame but themselves.	.08	-.20	.98	.11	-.17
e. var375, Except for your health, being old isn't much different than being young.	.52	-.20	.17	.35	-.19
f. var376, You just can't have a good time when you are older.	-.38	.17	.25	-.28	.24
g. var377, If you have enough money to live on, you can really enjoy your free time when you are older.	.50	-.08	-.00	.52	.04
h. var378, Lots of nice things happen to people who are older.	.75	-.10	.01	.58	-.28

TABLE 7

Rotated Attitude Items:
Categories, Frequencies, Means, Standard Deviations, Factor Loadings, and Explained Variances

1981 Winnipeg Area Survey

Variable	Response Categories	Frequencies	Mean	Standard Deviation	Factor Loading	Explained Variance
OPTIMISTIC						55.0
items: a. +var371, Old age can be the happiest time of a person's life.	Strongly Disagree (1) Strongly Agree (7)	1=9 2=19 3=41 4=63 5=85 6=57 7=57	4.80	1.57	.49	32.1
e. +var375, Except for your health, being old isn't much different than being young.	Strongly Disagree (1) Strongly Agree (7)	1=21 2=47 3=38 4=42 5=49 6=71 7=64	4.57	1.92	.52	9.6
g. +var377, If you have enough money to live on, you can really enjoy your free time when you are older.	Strongly Disagree (1) Strongly Agree (7)	1=5 2=15 3=15 4=39 5=39 6=83 7=137	5.67	1.55	.50	7.7

Table 7 continued

h. +var378, Lots of nice things happen people who are older.	Strongly Disagree (1) Strongly Agree (7)	1=1 2=6 3=14 4=68 5=63 6=90 7=86	5.4	1.31	.75	5.6
PESSIMISTIC						34.4
b. +var372, Old age is a time of loneliness	Strongly Disagree (1) Strongly Agree (7)	1=36 2=27 3=44 4=64 5=64 6=53 7=43	4.28	1.84	.99	14.5
c. +var373, Nobody really cares about older people these days.	Strongly Disagree (1) Strongly Agree (7)	1=44 2=56 3=58 4=44 5=62 6=43 7=23	3.74	1.83	.36	11.9
f. +var376, You just can't have a good time when you are older.	Strongly Disagree (1) Strongly Agree (7)	1=134 2=102 3=42 4=19 5=14 6=14 7=5	2.21	1.47	.17	8.0
INDIVIDUALISTIC						10.6
d. +var374, People who are unhappy in their old age have nobody to blame but themselves.	Strongly Disagree (1) Strongly Agree (7)	1=31 2=66 3=54 4=49 5=62 6=40 7=27	3.83	1.79	N/A	10.6

TABLE 8

Rotated Attitude Items: Categories, Frequencies, Means, Standard Deviations, Factor Loadings, and Explained Variances

1981 Edmonton Area Survey

Variable	Response Categories	Frequencies	Mean	Standard Deviation	Factor Loading	% Explained Variance
OPTIMISTIC						52.2
a. +var371, Old Age can be the happiest time of a person's life.	Strongly Disagree (1) Strongly Agree (7)	1=12 2=20 3=43 4=85 5=86 6=93 7=51	4.78	1.53	.43	29.4
e. +var375, Except for your health, being old isn't much different than being young	Strongly Disagree (1) Strongly Agree (7)	1=11 2=42 3=61 4=49 5=65 6=101 7=55	4.66	1.71	.35	9.5
g. +var377, If you have enough money to live on, you can really enjoy your free time when you are older.	Strongly Disagree (1) Strongly Agree (7)	1=4 2=8 3=15 4=28 5=50 6=126 7=151	5.87	1.41	.52	6.7

Table 8 continued

h. +var378, Lots of nice things happen to people who are older.	Strongly Disagree (1) Strongly Agree (7)	1=5 2=14 3=16 4=78 5=87 6=103 7=86	5.3	1.41	.58	6.6
PESSIMISTIC						37.3
b. +var372, Old age is a time of loneliness.	Strongly Disagree (1) Strongly Agree (7)	1=27 2=68 3=60 4=72 5=84 6=57 7=24	3.98	1.68	.65	15.6
c. +var373, Nobody really cares about older people these days.	Strongly Disagree (1) Strongly Agree (7)	1=37 2=80 3=63 4=57 5=75 6=55 7=25	3.81	1.77	.51	13.7
f. +var376, You just can't have a good time when you are older.	Strongly Disagree (1) Strongly Agree (7)	1=138 2=134 3=66 4=29 5=11 6=11 7=2	1.30	.46	.24	8.0
INDIVIDUALISTIC	-					10.6
d. +var374, People who are unhappy in their old age have nobody to blame but themselves.	Strongly Disagree (1) Strongly Agree (7)	1=46 2=62 3=68 4=91 5=61 6=39 7=22	3.68	1.69	.98	10.6

C. Pearson Correlations for Attitude Scales

As Table 9 shows most of the correlations are below .20 with the exception of the correlations between knowledge and the pessimistic scale, which are below .35. Only correlations significant at p<.05 or better will be discussed here.

Winnipeg

OptimisticW correlates positively with Knowledge (r=.16, p<.01), Age as a continuous variable (r=.11, p<.05), and marital status's dummy variable Married (r=.10, p<.05). This dimension also correlates negatively with marital status's dummy variable Never Married (r=-.18, p<.001).

PessimisticW correlates negatively with Knowledge (r=-.35, p<.00), religion's dummy variable Protestant (r=-.12, p<.05), Perceived Overall Health Status (r=-.11, p<.05), Perceived Physical Health Status (r=-.10, p<.05), and age's dummy variable Old (r=-.10, p<.05).

IndividualisticW correlates positively with Perceived Physical Health Status (r=.14, p<.01), Perceived Overall Health Status (r=.12, p<.05), and age's dummy variable Old (r=.09, p<.05). This dimension also correlates negatively with marital status's dummy variable Married (r=-.09, p<.05).

Edmonton

OptimisticE correlates positively with age's dummy variable Old (r=.11, p<.05), Sex (r=.10, p<.05), Children in the Household (r=.09, p<.05), and Knowledge (r=.09, p<.05).

PessimisiticE correlates negatively with Knowledge (r=-.31, p<.00), Elderly Relatives (r=-.17, p<.00), Total Visits to Elderly Relatives (r=-.12, p<.05), and marital status's dummy variable Married (r=-.08, p<.05). This scale also correlates positively with Ethnicity (r=.09, p<.05).

IndividualisticE correlates negatively with Perceived Physical Health Status (r=-.14, p<.05), age's dummy variable Old (r=-.13, p<.05), Sex (r=-.12, p<.05), Perceived Present Health Status (r=-.11, p<.05), and Education (r=-.11, p<.05). This variable also correlates positively with age's dummy variable Old (r=.14, p<.05), and Age as a continuous variable (r=.14, p<.05).

Summary of Pearson Correlations on the Attitude Scales

The results of these correlations indicate that in Winnipeg people who are older, married, and those who possess more knowledge about the elderly are more optimistic about old age. In contrast, those who are older, protestants, those who feel healthier, and those who possess more knowledge about the elderly score lower on the Pessimistic scale. Older respondents, those who are not married, and those who feel healthier score higher on the Individualistic item.

Looking at the correlates for Edmonton, we see that older people, females, people with children in the household, and those who possess more knowledge about the elderly score higher on the Optimistic scale. In contrast, married people, those who feel healthier, those with more elderly relatives, those who visit elderly relatives more, and those who possess more knowledge about the elderly score lower on the Pessimistic scale. In addition, those who score higher on the ethnicity scale score higher on the Pessimistic scale. People under 65, females, those with more education, and those who feel healthier score lower on the Individualistic item, while older people score higher.

In sum, we see that different variables correlate with the separate attitude scales within each of the cities. There are, however, some similarities: Older people and those with more knowledge score higher on the Optimistic scale; People who feel healthier and who possess more knowledge score lower on the Pessimistic scale; and Older people score higher on the Individualistic item. A striking reversal occurs between the two cities concerning the health variables. Those who feel healthier score higher on the Individualistic item in Winnipeg, but score lower on this item in Edmonton.

D. Pearson Correlations for the Contact Measures

Several statistically significant correlations are found between the contact measures and the independent and dependent variables. As can be seen from Table 10 most of the correlations are below .20.

Winnipeg

Winnipeg's Contact With Most Significant Elderly Relative correlates negatively with age's dummy variable Old ($r=-.17$, $p<.00$), marital status's dummy variable Widowed ($r=-.15$, $p<.01$), Age as a continuous variable ($r=-.12$, $p<.05$), and Urban/Rural Upbringing ($r=-.11$, $p<.05$). Positive correlations are found with Elderly Relatives ($r=.45$, $p<.00$), Children in the Household ($r=.14$, $p<.01$), Education ($r=.10$, $p<.05$), marital status's dummy variable Married ($r=.14$, $p<.01$), Household Income ($r=.12$, $p<.05$), Age's dummy variable Middle ($r=.12$, $p<.05$), Perceived Overall Health Status ($r=.12$, $p<.05$), and Sex ($r=.10$, $p<.05$).

Winnipeg's Contact With All Elderly Relatives' correlations vary slightly from the correlations of Contact With Most Significant Elderly Relative. Negative correlations are found with age's dummy variable Old ($r=-.15$, $p<.01$), marital status's dummy variable Widowed ($r=-.12$, $p<.05$), and Age as a continuous variable ($r=-.13$, $p<.01$). Positive correlations are found with Elderly Relatives ($r=.45$, $p<.00$), Children in the Household ($r=.19$, $p<.00$), Household Income ($r=.12$, $p<.05$), marital status's dummy variable Married (r=.18, p<.00), and age's dummy variable Middle (r=.11, p<.05).

Edmonton

Edmonton's Contact With Most Significant Elderly Relative is positively correlated with Elderly Relatives (r=.46, p<.00), Children in the Household (r=.19, p<.00), marital status's dummy variable Widowed (r=.15, p<.00), Education (r=.13, p<.01), Household Income (r=.12, P<.05), religion's dummy variable Protestant (r=.09, p<.05), and negatively correlated with Upbringing (r=-.20, p<.00), and marital Status's dummy variable Never Married (r=-.13, p<.01).

Edmonton's Contact With All Elderly Relatives is positively correlated with Elderly Relatives (r=.61, p<.00), Children in the Household (r=.19, p<.00), Household Income (r=.14, P<.01), Sex (r=.10, p<.05), and Education (r=.10, p<.05), and negatively correlated with Upbringing (r=-.14, p<.01), and marital status's dummy variable Never Married (r=-.13, p<.01).

Summary of Pearson Correlations for the Contact Measures

In Winnipeg married people, those with a rural upbringing, those between 40 and 65, females, those with a higher household income, those with more education, those with children in the household, those with more elderly relatives, and those who feel healthier see their most significant elderly relative more frequently than do others. Further, those who are married, those who are middle aged, those with a higher household income, those with more education, those with children in the household, and those with more elderly relatives, see all elderly relatives more frequently. Note that Sex is significantly correlated with seeing most significant elderly relative but not with seeing all elderly relatives.

In contrast, among Edmontonians, those who are widowed, those with a rural upbringing, those with more education, those with a higher household income, those with children in the household, and those with more elderly relatives see their most significant elderly relative more frequently. Further, females, those with a rural upbringing, those with a higher household income, those with children in the household, and those with more elderly relatives see elderly relatives in general more frequently than do others. Note that Sex is significantly correlated with seeing elderly relatives in general but not with seeing most significant elderly relative. This correlation is the inverse of the Winnipeg sample where Sex correlates with Most Significant Elderly Relative, but not with All Elderly Relatives.

E. Pearson Correlations for Knowledge Scale

Table 11 shows the Pearson correlations between the Knowledge scale and the independent and dependent variables. Looking at this table we see that most correlations are below .15, with the exception of the correlations between Knowledge and the pessimistic scale which are below .35. Note that there are twice as many statistically significant correlations for Edmonton as for Winnipeg.

Winnipeg

In the Winnipeg sample Knowledge about the Elderly correlates negatively with PessimisticW (r=-.34, p<.00), Children in the Household (r=-.10, p<.05), and Ethnicity (r=-.09, p<.05) and positively with OptimisticW (r=.15, p<.01).

Edmonton

In the Edmonton sample Knowledge about the Elderly correlates positively with religion's dummy variable Protestant (r=.11, p<.01), Elderly Relatives (r=.10, p<.05), Contact With All Elderly Relatives (r=.10, p<.05), age's dummy variable Old (r=.09, p<.05), Contact With Most Significant Elderly Relative (r=.08, p<.05), and OptimisticE (r=.08, p<.05). Knowledge correlates negatively with PessimisticE (r=-.31, p<.00), religion's dummy variable Catholic (r=-.12, p<.01), and Upbringing (r=-.11, p<.05).

Summary of Pearson Correlations for the Knowledge Scale

In Winnipeg, the negative correlations indicate that respondents with Children in the household and those who rank higher on the ethnicity scale score lower on the knowledge scale than others. As hypothesized, those who score higher on the knowledge scale, score higher on the Optimistic scale, and lower on the Pessimistic scale.

In Edmonton, the negative relationships indicate that Catholics are less knowledgeable about the elderly than those with other or no religious affinity and that those who are more pessimistic are less knowledgeable. Positive relationships for Edmonton indicate that: those with a rural upbringing are more knowledgeable than those with an urban upbringing; the more elderly relatives in the immediate family the more knowledgeable the respondent; the higher the score on the Optimistic scale, the higher the score on the Knowledge scale; the more repondents see elderly relatives, the more knowledgeable they are about the elderly; and Protestants are more knowledgeable than those of other or no religious affinity.

In sum, as was the case for the correlations of the attitude and contact variables the same significant correlations do not emerge for Edmonton and Winnipeg. In Winnipeg, those without children, and those with a more optimistic attitude toward old age know more about the elderly, while those with a pessimistic attitude toward old age know less. In Edmonton, those over 65-years of age, those with a rural upbringing, those with more elderly relatives, and those who see elderly relatives more often know more about the elderly than others do, while Catholics and those with a more pessimistic attitude toward old age know less about the elderly. Interesting to note is the one similarity between the two cities. In both samples the pessimistic dimension is negatively correlated with knowledge about the elderly.

TABLE 9

Pearson Correlations of Selected Independent Variables with Factor Analyzed Attitudes Toward Old Age

Edmonton and Winnipeg Area Surveys

Variable	Winnipeg Optimistic	Winnipeg Pessimistic	Winnipeg Individualistic	Edmonton Optimistic	Edmonton Pessimistic	Edmonton Individualistic
Age	.11$^{(05)}$	-.08	.07	.08	-.00	.14$^{(05)}$
Young	-.07	.05	-.04	-.05	-.01	-.13$^{(05)}$
Middle	.03	.02	-.03	-.02	.03	.04
Old	.07	-.10$^{(05)}$	.09$^{(05)}$	.11$^{(05)}$	-.02	.15$^{(05)}$
Sex	.06	-.04	.09	.10$^{(05)}$	-.04	-.12$^{(05)}$
Upbringing	.05	.09	-.01	-.02	.05	-.01
Never Married	-.18$^{(00)}$	.05	.04	-.06	.07	.02
Married	.10$^{(05)}$	-.06	-.09$^{(05)}$	.05	-.08$^{(05)}$	-.03
Widowed	.04	.02	.08	.04	.02	.03
Separated or Divorced	.05	.01	.02	-.02	.03	-.01
Children in the Household	-.03	.08	-.07	.09$^{(05)}$	-.07	-.02
Elderly Relatives	.02	.02	-.05	.10	-.17$^{(00)}$	.03
Household Income	.05	-.01	.04	-.07	-.05	-.07
Education	-.03	-.05	.06	-.06	-.02	-.11$^{(05)}$
Catholic	-.04	.05	-.07	.08	.03	.03

Table 9 continued

Protestant	.07	-.12$^{(05)}$	.02	-.06	-.04	-.02
Ethnicity	-.06	-.03	.07	-.09$^{(05)}$	.08$^{(05)}$	.02
Perceived Physical Health Status	.08	-.10$^{(05)}$	.14$^{(01)}$	.08	-.04	-.14$^{(05)}$
Perceived Present Health Status	.11	-.11$^{(05)}$	.12$^{(05)}$	.08	-.08$^{(05)}$	-.11$^{(05)}$
Contact With Most Significant Elderly Relative	.08	-.08	-.03	-.03	-.05	-.05
Contact With All Elderly Relatives	.05	-.03	-.08	.04	-.12$^{(05)}$	-.02
Knowledge About The Elderly	.15$^{(01)}$	-.33$^{(00)}$	-.03	.08$^{(05)}$	-.31$^{(00)}$	.07

TABLE 10

Pearson Correlations of Selected Independent Variables with Contact With Elderly Relatives

1981 Edmonton and Winnipeg Area Surveys

Variable	Winnipeg Contact With Most Significant Elderly Relative	Winnipeg Contact With All Elderly Relatives	Edmonton Contact With Most Significant Elderly Relative	Edmonton Contact With All Elderly Relatives
Age	$-.12^{(05)}$	$-.13^{(01)}$	.03	.01
Young	.01	.00	.01	.03
Middle	$.12^{(05)}$	$.11^{(05)}$	-.01	-.05
Old	$-.17^{(001)}$	$-.15^{(01)}$	.00	.02
Sex	$.10^{(05)}$	.08	.08	$.10^{(05)}$
Upbringing	$-.11^{(05)}$	-.07	$-.20^{(00)}$	$-.14^{(01)}$
Never Married	-.03	-.08	$-.13^{(01)}$	$-.13^{(01)}$
Married	$.14^{(01)}$	$.18^{(00)}$	-.01	$.17^{(00)}$
Widowed	$-.15^{(01)}$	$-.12^{(05)}$	$.15^{(00)}$	-.04
Separated or Divorced	-.03	-.07	-.07	$-.09^{(05)}$
Children in the Household	$.14^{(01)}$	$.19^{(00)}$	$.19^{(00)}$	$.19^{(00)}$
Elderly Relatives	$.45^{(00)}$	$.45^{(00)}$	$.46^{(00)}$	$.81^{(00)}$
Household Income	$.12^{(05)}$	$.12^{(05)}$	$.12^{(05)}$	$.11^{(05)}$
Education	$.10^{(05)}$	.07	$.13^{(01)}$	$.10^{(05)}$

Table 10 continued

Catholic	-.03	-.04	.01	.02
Protestant	-.01	-.01	.09$^{(.05)}$	.07
Ethnicity	.12$^{(.05)}$	.04	.02	-.02
Perceived Physical Health Status	.05	.07	.01	-.03
Perceived Present Health Status	.12$^{(.05)}$	.09	.07	.04
Optimistic	.08	.05	-.03	.04
Pessimistic	-.08	-.03	.05	-.12$^{(.05)}$
Individualistic	-.03	-.07	-.05	-.02
Knowledge	-.04	-.00	.09$^{(.05)}$	.11$^{(.05)}$

TABLE 11

Pearson Correlations of Selected Independent Variables with Knowledge About the Elderly

1981 Edmonton and Winnipeg Area Surveys

Variable	Winnipeg Knowledge About The Elderly	Edmonton Knowledge About The Elderly
Age	.02	-.01
Young	.00	.00
Middle	-.06	-.07
Old	.08	.09$^{(05)}$
Sex	-.08	.03
Upbringing	-.01	-.11$^{(05)}$
Never Married	.05	.05
Married	-.04	-.05
Widowed	-.06	.01
Separated or Divorced	-.61	-.01
Children in the Household	-.10$^{(05)}$	-.02
Elderly Relatives	-.02	.10$^{(05)}$
Total Household Income	-.03	-.03
Education	.03	-.05
Catholic	.01	-.12$^{(01)}$

Table 11 continued

Protestant	.05	.09$^{(***)}$
Ethnicity	-.09$^{(***)}$	-.08
Perceived Physical Health Status	.03	.01
Perceived Present Health Status	.02	.01
Contact With Most Significant Elderly Relative	-.06	.08
Contact With All Elderly Relatives	-.01	.10$^{(***)}$
Optimistic	.16$^{(***)}$	.09$^{(***)}$
Pessimistic	-.34$^{(***)}$	-.31$^{(***)}$
Individualistic	-.06	.07

F. Multiple Regressions for the Attitude Scales

T-values were calculated for the differences between the unstandardized slopes of the dependent variables on each of the independent variables. The results are presented in Tables 12, 13, and 14.

Table 12 shows that nine independent variables have statistically significant differences in their unstandardized slopes on the optimistic dimension. Differences are found for: **Socio-Economic Status** as measured by Household Income (T=10.80, p<.00), and Education (T=2.97, p<.01); **Kinship Contact** as measured by Contact With Most Significant Elderly Relative (T=2.96, p<.01), Children in the Household (T=4.06, p<.001), and marital status's dummy variable Widowed (T=1.98, p<.05); **Value Orientation** as measured by Urban/Rural Upbringing (T=2.38, p<.02), and Ethnicity (T=2.38, p<.02); **Knowledge** (T=2.76, p<.01); and **Health** as measured by Perceived Physical Health (T=2.76, p<.01). In other words, although Edmontonians and Winnipeggers score approximately the same mean response score on each of the optimistic attitude items, differences exist between the two cities in the extent to which some independent variables predict the score on the optimistic scale.

Table 13 also reveals that nine independent variables have statistically significant differences in their unstandardized slopes. Differences are found for: **Socio-Economic Status** as measured by Education (T=8.50, p<.000), and Income (T=5.67, p<.000); **Kinship Contact** as measured by Children in the Household (T=2.79, p<.01), Contact With Most Significant Elderly Relative (T=2.19, p<.05), and Contact With All Elderly Relatives (T=2.19, p<.05); **Value Orientation** as measured by Ethnicity (T=3.05, p<.001); **Knowledge About the Elderly** (T=2.10, p<.05); **Health** as measured by Perceived Overall Health Status (T=5.13, p<.000); and **Sex** (T=3.91, p<.001). Again, although Edmontonians and Winnipeggers score approximately the same mean response scores on each of the pessimistic attitude items, statistically significant differences exist between the two cities in the extent to which some independent variables predict the score on the pessimistic dimension.

Table 14 shows that thirteen independent variables have statistically significant differences in their unstandardized slopes on the Individualistic dimension. Differences are found for: **Socio-Economic Status** as measured by Income (T=7.39, p<.000) and Education (T=5.95, p<.000); **Kinship Contact** as measured by Contact With All Elderly Relatives (T=13.98, p<.000), Children in the Household (T=13.69, p<.000), marital status's dummy variable Married (T=7.61, p<.000), and Number of Elderly Relatives (T=2.13, p<.000); **Value Orientation** as measured by Ethnicity (T=4.88, p<.00) and Urban/Rural Upbringing (T=2.52, p<.01); **Knowledge About the Elderly** (T=18.05, p<.000); **Health** as measured by Perceived Physical Health (T=7.06, p<.000) and Perceived Overall Health (T=3.18, p<.01); and **Sex** (T=8.11, p<.000). As with the results of the T-tests on the optimistic and pessimistic dimensions, these results indicate that although Edmontonians and Winnipeggers score approximately the same mean response score on the individualistic attitude item, differences exist between the two cities in the extent to which some independent variables predict the score on the individualistic dimension.

In comparing the results of the differences between the slopes some interesting similarities are apparent. First, the effect of Socio-Economic Status, as measured by Education and Income, is statistically significantly different on each of the attitude scales for both cities. Second, the effect of Kinship Contact, as measured by Children in the Household and Contact with Elderly Relatives, is statistically significantly different on each of the attitude scales. Third, the effect of Value Orientation, as measured by Ethnicity, is statistically significantly different on each of the attitude scales. Fourth, Knowledge About the Elderly is statistically significantly different on each of the attitude scales. Finally, the Health variables are statistically significantly different for each of the attitude scales. Although both health measures do not have strong differences on each of the dependent factors. Perceived Physical Health has a statistically significant T-value on Optimistic and Individualistic, while Perceived Overall Health has a statistically significant T-value on Pessimistic and

Individualistic.

TABLE 12

T-Values in Descending Magnitude
Difference Between the Unstandardized Slopes on the Optimistic Scale

1981 Edmonton and Winnipeg Area Surveys

Variable	Winnipeg Slope	Edmonton Slope	T Value	Significance Level
Household Income	.021	-.016	10.802	.000
Children	-1.189	1.329	4.063	.001
Education	-.111	-.006	2.975	.01
Contact with Most Significant Eldery Relative	.098	-.241	2.964	.01
Perceived Physical Health	.010	.518	2.758	.01
Knowledge	.724	.157	2.757	.01
Urban Rural Upbringing	.164	.018	2.650	.01
Ethnicity	-.030	-.514	2.376	.02
Widowed	-1.233	-.168	1.979	.05
Contact with All Elderly Relatives	-.118	-.026	1.722	
Catholic	-.941	.901	1.693	
Never Married	-3.344	.077	1.320	
Old Age (65+)	.528	2.715	1.232	
Sex	1.114	.465	.811	
Perceived Overall Health	.668	.228	.762	

Table 12 continued

Married	1.221	.185	.749	
Protestant	-.955	-.417	.576	
Elderly Relatives	.627	.431	.468	
Middle Aged (41-64)	.241	.396	.289	
Control Group Separated or Divorced Young (18-40) No Religious Affinity	17.650	16.614	.069	

TABLE 13

T-Values in Descending Magnitude
Difference Between the Unstandardized Slopes on the Pessimistic Scale

1981 Edmonton and Winnipeg Area Surveys

Variable	Winnipeg Slope	Edmonton Slope	T Value	Significance Level
Contact with Most Significant Elderly Relative	-.114	.157	20.826	.000
Education	.015	-.038	8.504	.000
Income	-.003	-.017	5.675	.000
Perceived Overall Health	.153	-.343	5.131	.000
Sex	-.849	-.177	3.906	.001
Ethnicity	-.412	.255	3.049	.01
Children	.236	-.276	2.795	.01
Contact with All Elderly Relatives	.081	-.016	2.193	.05
Knowledge	-.994	-.570	2.099	.05
Married	.312	.036	1.764	
Perceived Physical Health	-.172	-.005	1.577	
Catholic	.179	-.582	1.442	
Middle Age (41-64)	-.630	.060	1.377	
Widowed	1.853	.330	.859	
Urban/Rural Upbringing	.067	.041	.825	

Table 13 continued

Old Age (65+)	1.560	-.921	.429	
Protestant	-.611	-.384	.368	
Elderly Relatives	-.242	-.421	.317	
Never Married	.673	.438	.228	
Control Group Separated or Divorced Young (18-40) No Religious Affinity	14.667	13.705	.089	

TABLE 14

T-Values in Descending Magnitude
Difference Between the Unstandardized Slopes on the Individualistic Scale

1981 Edmonton and Winnipeg Area Surveys

Variable	Winnipeg Slope	Edmonton Slope	T Value	Significance Level
Knowledge	-.027	.062	18.054	.000
Contact with All Elderly Relatives	-.042	.037	13.978	.000
Children	-.083	.146	13.690	.000
Sex	.455	-.472	8.113	.000
Married	-.094	.118	7.607	.000
Income	.005	-.001	7.391	.000
Perceived Physical Health	.289	-.111	7.059	.000
Education	.024	-.025	5.954	.000
Ethnicity	.434	-.026	4.883	.000
Perceived Overall Health	.104	-.086	3.184	.01
Urban/Rural Upbringing	.013	.039	2.524	
Control Group Separated or Divorced Young (18-40) No Religious Affinity	.2.54	5.002	2.340	.02
Elderly Relatives	.214	.028	2.132	.05
Catholic	-.547	-.058	1.799	

Contact with Most Significant Elderly Relative	-.051	-.098	1.454	
Widowed	-.094	.231	1.386	
Protestant	-.392	-.188	.839	
Middle Aged (41-64)	.311	.349	.165	
Old Age (65+)	.872	.777	.156	
Never Married	.304	.315	.029	

G. Trimmed Multiple Regression Equations

A series of step-wise multiple regression analyses were then carried out on the factor indices of attitudes in order to 1) test hypothesis 1 and 2) determine the amount of variance explained by each of the independent variables, holding the other independent variables constant, for each city. Tables 15, and 16 show the independent variables statistically significant at the .05 level or better.

Hypothesis 1: It was hypothesized that an inverse relationship would exist between individual modernity and attitudes toward old age.

Winnipeg

Table 15 shows the results of trimmed step-wise multiple regressions on OptimisticW. Looking at this table we see that two variables emerge as having statistically significant effects: marital status's dummy variable Never Married (b=-1.98, β=-.18, p<.01); and Knowledge about the Elderly (b=.52, β=.17, p<.01). These two variables explain 4.6% of the variance in OptimisticW. They indicate that people who have never been married are less optimistic about old age than those in other marital status groups and that those with more knowledge are more optimistic.

Knowledge (b=-.86, β=-.35, p<.00) is the only variable to emerge as having a significant effect on PessimisticW. This variable explains 11.9% of the variation in PessimisticW and indicates that increased knowledge results in a less pessimistic attitude toward old age.

Two variables emerge as having statistically significant effects on IndividualisticW: Perceived Physical Health Status (b=.20, β=.16, p<.01); and marital status's dummy variable Widowed (b=.67, β=.11, p<.05). Together these variables explain 2.6% of the variation in IndividualisticW and indicate that widowed people, and those who feel better physically have a more individualistic attitude toward old age than do others. Thus the Winnipeg sample provides negligible support for the individual-modernity theory.

Edmonton

Looking at Table 16 we see that four variables emerge with statistically significant effects on OptimisticE: age's dummy variable Old (b=2.21, β=.18, p<.00); Children in the Household (b=1.21, β=.15, p<.05); Ethnicity (b=-.52, β=-.12, p<.05); and Perceived Physical Health Status (b=.33, β=.11, p<.05). Together these variables explain 4.4% of the variance in OptimisticE and indicate that older people, those who have children in the household, and those who feel better physically are more optimistic toward old age than other groups, while people who score higher on the ethnicity scale are less optimistic about old age.

Two variables emerge with statistically significant effects on PessimisticE: Knowledge (b=-.62, β=-.29, p<.00); and Elderly Relatives (b=-.33, β=-.14, p<.01). Together these variables explain 10.8% of the variation in PessimisticE and indicate that those with more knowledge about the elderly and those with more elderly relatives are less pessimistic about old age. As for the Winnipeg sample, the Edmonton sample provides negligible support for the individual-modernity theory.

Two variables emerge as having statistically significant effects on IndividualisticE: age's dummy variable Old (b=.86, β=.16, p<.01); and Sex (b=-.43, β=-.13, p<.05). Together these variables explain 3.5% of the variation in IndividualisticE and indicate that older people and males score higher on the individualistic item.

Summary of Multiple Regressions on the Attitude Scales

Looking at Tables 15 and 16 we see that different variables emerge as statistically significant for each of the attitude scales in each of the cities. The only similar result is the effect of Knowledge on Pessimistic. Knowledge explains 11.9% of the variation in PessimisticW and 10.8% of the variation in PessimisticE. The rest of the effects indicate that different variables combine to affect attitudes toward old age in Edmonton and Winnipeg. Thus, it would be a mistake to generalize the results of multiple regressions obtained for one city to any place other than that particular city. Findings for both cities provide negligible support for the individual-modernity theory and consequently the first hypothesis is rejected.

TABLE 15

Multivariate Analyses of Optimistic, Pessimistic, and Individualistic Attitude Scales on Selected Independent Variables
Trimmed Equations

1981 Winnipeg Area Survey

Variable	Unstandardized Regression Coefficient	Standard Error	Standardized Regression Coefficient	T Value	p	Adjusted R^2
Optimistic N=325						
Never Married	-1.98	.58	-.18	-3.40	.001	.028
Knowledge	.52	.17	.17	3.15	.002	.055
Pessimistic N=324						
Knowledge	-.86	.13	-.35	-6.67	.000	.119
Individualistic N=328						
Physical Health	.20	.07	.16	2.93	.004	.017
Widowed	.67	.33	.11	2.01	.046	.026

TABLE 16

Multivariate Analyses of Optimistic, Pessimistic, and Individualistic Attitude Scales on Selected Independent Variables
Trimmed Equations

1981 Edmonton Area Survey

Variable	Unstandardized Regression Coefficient	Standard Error	Standardized Regression Coefficient	T Value	p	Adjusted R^2
Optimistic N=375						
Old Age (65+)	2.21	.66	.18	3.32	.001	.001
Children	1.21	.42	.15	2.85	.005	.024
Ethnicity	-.52	.23	-.12	-2.30	.022	.034
Physical Health	.33	.15	.11	2.16	.032	.044
Pessimistic N=384						
Knowledge	-.62	.10	-.29	-6.03	.000	.092
Elderly Relatives	-.33	.12	-.14	-2.80	.005	.108
Individualistic N=388						
Old Age (65+)	.86	.27	.16	3.17	.002	.021
Sex	-.43	.17	-.13	-2.56	.011	.035

H. Multiple Regressions for the Contact Measures

Tables 17 and 18 show the results of trimmed step-wise multiple regressions on the two contact measures: Contact With Most Significant Elderly Relative; and Contact With All Elderly Relatives. Regressions were run on these variables in order to identify predictors of contact with elderly relatives.

Winnipeg

As Table 17 shows two variables emerge as having a statistically significant effect on Contact With Most Significant Elderly Relative: Elderly Relatives ($b=.71$, $\beta=.56$, $p<.00$); and Ethnicity ($b=.31$, $\beta=.14$, $p<.00$). Together these variables explain 21.8% of the variance in this contact measure. These results indicate that those with more elderly relatives and those with a stronger ethnic identity see their most significant elderly relative more often than do others.

The only variable to emerge with a statistically significant effect on Contact With All Elderly Relatives is the Number of Elderly Relatives in the Family ($b=3.02$, $\beta=.82$, $p<.00$) which explains 67.7% of the variance in this contact measure.

Edmonton

As Table 18 shows four variables emerge as having a statistically significant effect on Contact With Most

Significant Elderly Relative: Elderly Relatives (b=.61, β=.44, p<.00); Upbringing (b=-.17, β=-.24, p<.00); Children in the Household (b=.54, β=.14, p<.00); and Education (b=.28, β=.12, p<.05). Together these variables explain 28.7% of the variance in this contact measure and indicate that people with a rural upbringing, people with higher levels of education, people with children in the household, and people with more elderly relatives have more contact with their most significant elderly relative.

The same variables emerge as having a statistically significant effects on Contact With All Elderly Relatives: Elderly Relatives (b=2.64, β=.79, p<.00); Upbringing (b=-.27, β=-.16, p<.00); Children in the Household (b=.85, β=.06, p<.05); and Education (r=.35, β=.06, p<.05). Together these variables explain 68.5% of the variation in this measure and indicate that those with more elderly relatives, those with a rural upbringing, those with children in the household, and those with higher levels of education have more contact with all elderly relatives.

Summary of Multiple Regressions on the Contact Measures

In comparing the statistically significant effects for the two cities, we see that the Number of Elderly Relatives in the Immediate Family explains most of the variance in the contact measures. We also see that ethnicity has an effect in Winnipeg, but not in Edmonton, while Upbringing, Children, and Education have effects in Edmonton, but not in

Winnipeg. These results, thus indicate, as the results for the attitude scales do, that findings for one city cannot be generalized outside of that particular city.

TABLE 17

Multivariate Analyses of Contact With Elderly Relatives on

Selected Independent Variables

Results of Trimmed Equations

1981 Winnipeg Area Survey

Variable	Unstandardized Regression Coefficient	Standard Error	Standardized Regression Coefficient	T Value	p	Adjusted R^2
Contact With Most Significant Elderly Relative N=331						
Elderly Relatives	.71	.08	.56	9.36	.000	.199
Ethnicity	.31	.11	.14	2.90	.004	.218
Contact With All Elderly Relatives N=333						
Elderly Relatives	3.02	.11	.82	26.39	.000	.677

TABLE 18

Multivariate Analyses of Contact With Elderly Relatives on Selected Independent Variables
Results of Trimmed Equations

1981 Edmonton Area Survey

Variable	Unstandardized Regression Coefficient	Standard Error	Standardized Regression Coefficient	T Value	p	Adjusted R'
Contact With Most Significant Elderly Relative N=347						
Elderly Relatives	.61	.06	.44	9.46	.000	.219
Upbringing	-.17	.03	-.24	-5.10	.000	.255
Children	.54	.18	.14	2.99	.003	.275
Education	.28	.11	.12	2.55	.011	.287
Contact With All Elderly Relatives N=347						
Elderly Relatives	2.64	.10	.79	25.80	.000	.658
Upbringing	-.27	.05	-.16	-5.04	.000	.674
Children	.85	.29	.09	2.93	.004	.682
Education	.35	.17	.06	2.01	.045	.685

I. Multiple Regressions for the Knowledge Scale

Knowledge About the Elderly was regressed on the independent variables in order to test the second hypothesis.

Hypothesis 2: It was hypothesized that a) a positive relationship exists between Knowledge about the elderly and attitudes toward old age; and b) Knowledge would act as an intervening variable between the indicators of individual-modernity and attitudes toward old age.

Results of trimmed step-wise multiple regressions for the Knowledge scale are presented in Table 19.

Winnipeg

Only one variable emerges as having a statistically significant effect on the Knowledge scale: PessimisticW (b=-.14, β=-.36, p<.00). This variable explains 11.8% of the variation in the Knowledge scale and indicates that those with a pessimistic attitude toward old age are less knowledgeable about the elderly than are others.

Edmonton

Two variables emerge as having statistically significant effects on the Knowledge scale: PessimisticE (b=-.14, β=-.30, p<.00); and Upbringing (b=-.07, β=-.12, p<.00). These variables explain 10.2% of the variance in the Knowledge scale and indicate that people with an urban upbringing and those with a pessimistic attitude toward old age know less about the elderly than do others.

Summary of Multiple Regressions on the Knowledge Scale

The effect of a pessimistic attitude toward old age on knowledge about the elderly emerges as statistically significant for both cities. This variable explains 100% of the explained variance in Winnipeg and 90% in Edmonton. The other significant effect indicates that those with an urban upbringing know less in Edmonton than those with a rural upbringing.

Part (a) of hypothesis 2 is supported by these findings, in that those with more knowledge about the elderly are less pessimistic toward old age. Part (b) is also partially supported. In Edmonton, knowledge about the elderly acts as an intervening variable between one measure of individual modernity and a pessimistic attitude toward old age, but serves no such function in Winnipeg.

In contrast to the results from the attitude and behavior regressions these findings suggest that results obtained for the knowledge scale can be generalized beyond the city being sampled.

TABLE 19

Multivariate Analyses of Knowledge About the Elderly on Selected Independent Variables
Results of Trimmed Equations

1981 Winnipeg and Edmonton Area Surveys

Variable	Unstandardized Regression Coefficient	Standard Error	Standardized Regression Coefficient	T Value	p	Adjusted R^2
WINNIPEG N=328						
Pessimistic	-.14	.02	-.35	-6.67	.000	.118
EDMONTON N=331						
Pessimistic	-.14	.02	-.30	-5.73	.000	.091
Upbringing	-.07	.03	-.12	-2.24	.026	.102

TABLE 20

Multivariate Analyses of Perceived Physical Health Status on

Selected Independent Variables
Results of Trimmed Equations

1981 Winnipeg and Edmonton Area Surveys

Variable	Unstandardized Regression Coefficient	Standard Error	Standardized Regression Coefficient	T Value	p	Adjusted R^2
WINNIPEG N=295						
Income	.01	.01	.14	2.38	.018	.028
Widowed	-.63	.28	-.13	-2.25	.025	.041
EDMONTON N=399						
Old Age (65+)	-.80	.20	-.19	-3.95	.000	.034
Separated or Divorced	-.78	.25	-.15	-3.12	.002	.055

TABLE 21

Multivariate Analyses of Household Icome on Selected Independent Variables Results of Trimmed Equations

1981 Winnipeg and Edmonton Area Surveys

Variable	Unstandardized Regression Coefficient	Standard Error	Standardized Regression Coefficient	T Value	p	Adjusted R^2
WINNIPEG N=292						
Married	9.51	1.40	.34	6.80	.000	.139
Education	5.28	.92	.29	5.72	.000	.254
Old (65+)	-8.75	2.10	-.21	-4.17	.000	.294
Sex	-2.72	1.37	-.10	-1.98	.049	.301
EDMONTON N=275						
Old (65+)	-13.96	2.06	-.31	-6.77	.000	.159
Married	8.32	1.37	.28	6.08	.000	.242
Education	3.60	.83	.20	4.31	.000	.281
Sex	-4.26	3.16	-.15	-3.29	.001	.301

TABLE 22

Multivariate Analyses of Education on

Selected Independent Variables
Results of Trimmed Equations

1981 Winnipeg and Edmonton Area Surveys

Variable	Unstandardized Regression Coefficient	Standard Error	Standardized Regression Coefficient	T Value	p	Adjusted R^2
WINNIPEG N=292						
Old (65+)	-.62	.11	-.29	-5.47	.000	.080
EDMONTON N=341						
Old (65+)	-.67	.12	-.27	-5.50	.000	.055
Middle-Aged (40-65)	-.28	.08	-.16	-3.27	.001	.075

J. Path Analyses

Path analyses are based on the results of the multiple regressions and are executed to show the effects of intervening variables. Only variables statistically significant at the .05 level or better are retained in these analyses.

Winnipeg

Figure 1 shows the unstandardized and standardized path coefficients for the Winnipeg sample. Looking at this figure we see the following direct, indirect, and total effects:

OptimisticW is affected directly by Marital status's dummy variable Never Married (b=-1.98, β=-.18, p<.00), Knowledge (b=.52, β=.17, p<.00), and Pessimistic through knowledge (b=-.07, β=-.06, p<.00);

PessimisticW is affected directly by Knowledge (b=-.86, β=-.35, p<.00);

IndividualisticW is affected directly by Perceived Physical Health (b=.20, β=.16, p<.01), and marital status's dummy variable Widowed (b=.67, β=.11, p<.05) and indirectly through Perceived Physical Health (b=-.13, β=-.02, p<.05), which makes the total effect of Widowed on IndividualisticW (b=.54, β=.09, p<.05). Total Household Income has a small indirect effect through Perceived Physical Health, not worth discussing.

Personal Characteristics. As the path coefficients show Perceived Physical Health has a negative influence on the individualistic attitude dimension (b=.20, β=.16, p<.05).

Kinship Contact as measured by Never Married marital status has a negative affect on the optimistic dimension (b=-1.98, β=-.18, p<.05) and by Widowed marital status has a positive effect on the individualistic dimension (b=.67, β=.11, p<.05). Contact With Most Significant Elderly Relative is affected directly by Elderly Relatives (b=.71, β=.56, p<.00) and by Ethnicity (b=.31, β=.14, p<.00). Contact With All Elderly Relatives is affected directly by Elderly Relatives (b=3.02, β=.82, p<.00). Although Elderly Relatives has a positive direct effect on both of the contact measures, the contact measures do not affect the attitude dimensions, nor does Children in the Household.

Value Orientation as measured by Ethnicity has a positive effect on contact with Most Significant Elderly Relative (b=.31, β=.14, p<.01), but not on any of the attitude dimensions, nor do Upbringing or Religiousity.

Socio-Economic Status as measured by Household Income has a negligible indirect effect on the individualistic attitude dimension, but education does not affect any of the dependent measures.

Edmonton

Figure 2 shows the unstandardized and standardized path coefficients for the Edmonton sample. Looking at this figure, we see the following direct, indirect, and total effects:

OptimisticE is affected by Age's dummy variable Old (65+) directly (b=2.21, β=.18, p<.01) and indirectly through Physical Health (b=-.26, β=-.02, p<.01) making the total effect of Old (b=1.95, β=.16, p<.01). directly by Children in the Household (b=1.21, β=.15, p<.01), Ethnicity (b=-.52, β=-.12, p<.05), and Perceived Physical Health (b=.33, β=.11, p<.01);

PessimisticE is affected directly by Knowledge (b=-.62, β=-.29, p<.00), Elderly Relatives (b=-.33, β=-.14, p<.01), and indirectly by Upbringing through Knowledge (b=.04, β=.03, p<.05);

IndividualisticE is affected directly by Age's dummy variable Old (65+) (b=.86, β=.16, p<.00); and Sex (b=-.43, β=-.13, p<.05);

Knowledge is affected directly by Upbringing (b=-.43, β=-.12, p<.05).

Personal Characteristics. As the path coefficients show age's dummy variable Old affects both the optimistic (b=-2.21, β=.18, p<.001) and individualistic (b=.86, β=.16, p<.01) attitude scales. Sex affects IndividualisticE(b=-.43, β=.11, p<.05) and Physical Health affects OptimisticE (b=.33, β=.11, p<.05).

Kinship Contact as measured by Children in the Household affects OptimisticE (b=1.21, β=.15, p<.01) and Contact With Most Significant Elderly Relative (b=.54, β=.12, p<.05).

Contact With Most Significant Elderly Relative is affected directly by Elderly Relatives (b=.61, β=.44, p<.00), Upbringing (b=-.17, β=-.24, p<.00), Children in the Household (b=.54, β=.14, p<.01), and Education (b=.28, β=.12, p<.05).

Contact With All Elderly Relatives is affected directly by Elderly Relatives (b=2.64, β=.79, p<.00), Upbringing (b=-.35, β=-.06, p<.00), Children in the Household has a direct effect (b=.85, β=.09, p<.01), and Education (b=.35, β=.06, p<.05).

Value Orientation as measured by Upbringing affects both the knowledge and the contact measures, but not the attitude dimensions. Ethnicity affects OptimisticE, but Religiousity does not emerge as affecting any of the attitude dimensions.

Socio-Economic Status as measured by Education affects both of the contact measures, but does not affect the attitude dimensions. Income, however, does not emerge as affecting any of the attitude dimensions.

Summary of the Path Analyses

Comparing the two path models, Figures 1 and 2, we see that there are two similarities. First, there is a negative effect between Knowledge and Pessimistic in each model. Second, Elderly Relatives affects the two contact measures in both analyses. For the most part, however, the observed effects in each sample are different.

Perceived Physical Health affects Individualistic in Winnipeg and Optimistic in Edmonton; Age's dummy variable Old (65+) affects the Optimistic scale, the Individualistic item, and Perceived Physical Health in Edmonton, but it does not affect any of the variables in Winnipeg; Ethnicity affects Contact With Most Significant Elderly Relative, in Winnipeg, and only the Optimistic scale in Edmonton; Sex affects the Individualistic item in Edmonton, but nothing in Winnipeg; Children in the Household affects the Optimistic scale and both contact measures in Edmonton, but it does not affect anything in Winnipeg. Upbringing, likewise, has an affect on the two contact measures in Edmonton, but does not affect anything in Winnipeg; Elderly Relatives affects the Pessimistic scale in Edmonton, but does not affect any of the attitude scales in Winnipeg; Education affects the contact measures in Edmonton, but does not affect anything in Winnipeg; Marital status's dummy variable Never Married affects the Optimistic scale in Winnipeg and nothing in Edmonton; Married affects Perceived Physical Health in Winnipeg, but nothing in Edmonton; Widowed affects Perceived Physical Health and Individualistic in Winnipeg, but nothing in Edmonton. One final point, Children in the Household, Elderly Relatives, and Upbringing link the knowledge, contact, and the attitude scales in Edmonton, but serve no such function in Winnipeg.

These path models provide minimal support for hypothesis 1, in that it is shown that some measures of individual modernity affect attitudes toward old age. The models also provide support for hypothesis 2 part (a), in that it is shown that Knowledge about the elderly is negatively related to pessimistic attitudes toward old age. Partial support is also found for hypothesis 2 part (b) in that the Edmonton model illustrates the intervening effect of Knowledge about the elderly between Upbringing and the pessimistic attitude dimension.

Figure 1. Path Analyses for Variables Predicting Attitudes Toward Old Age in Winnipeg

1981 Winnipeg Area Survey

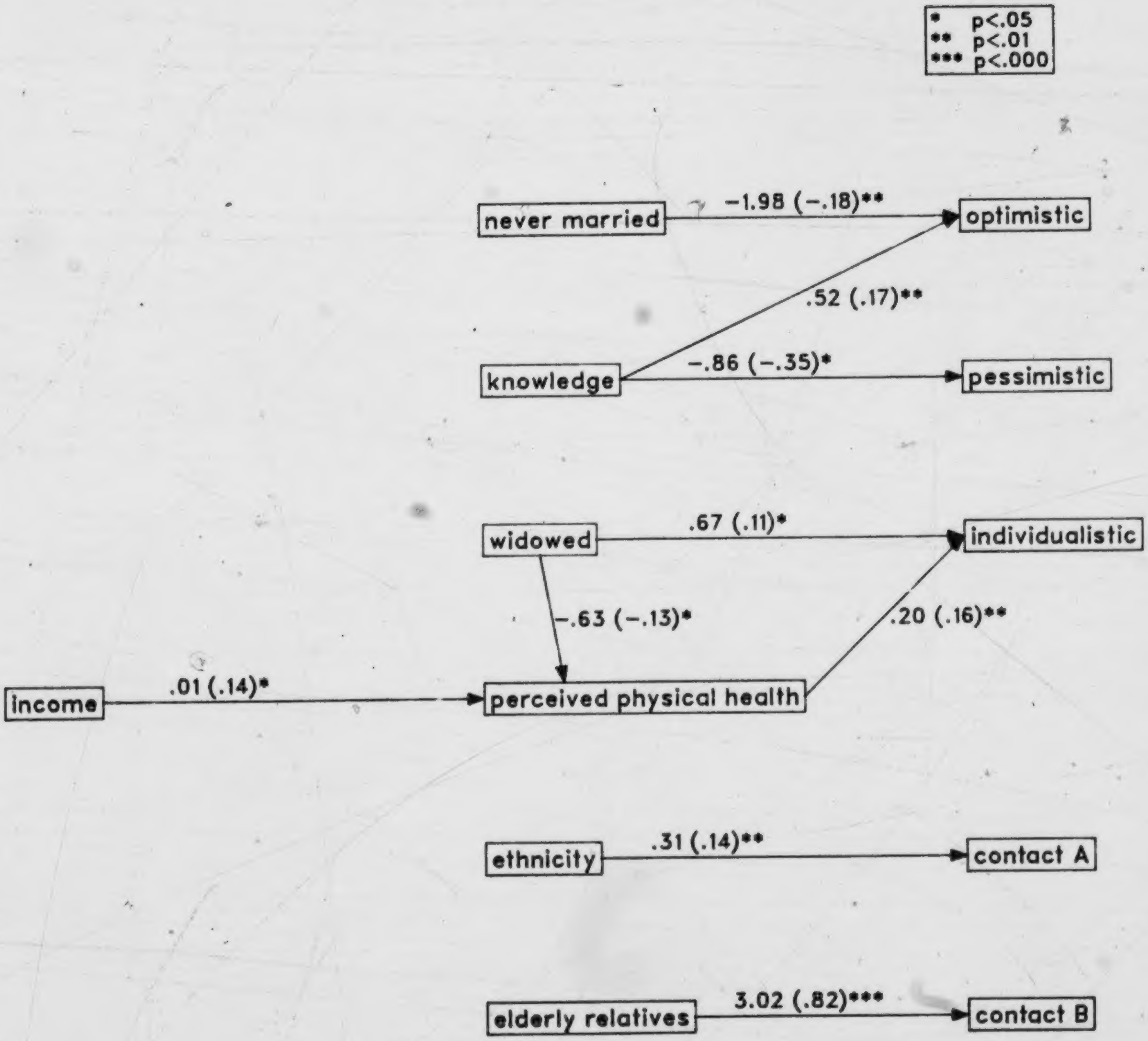
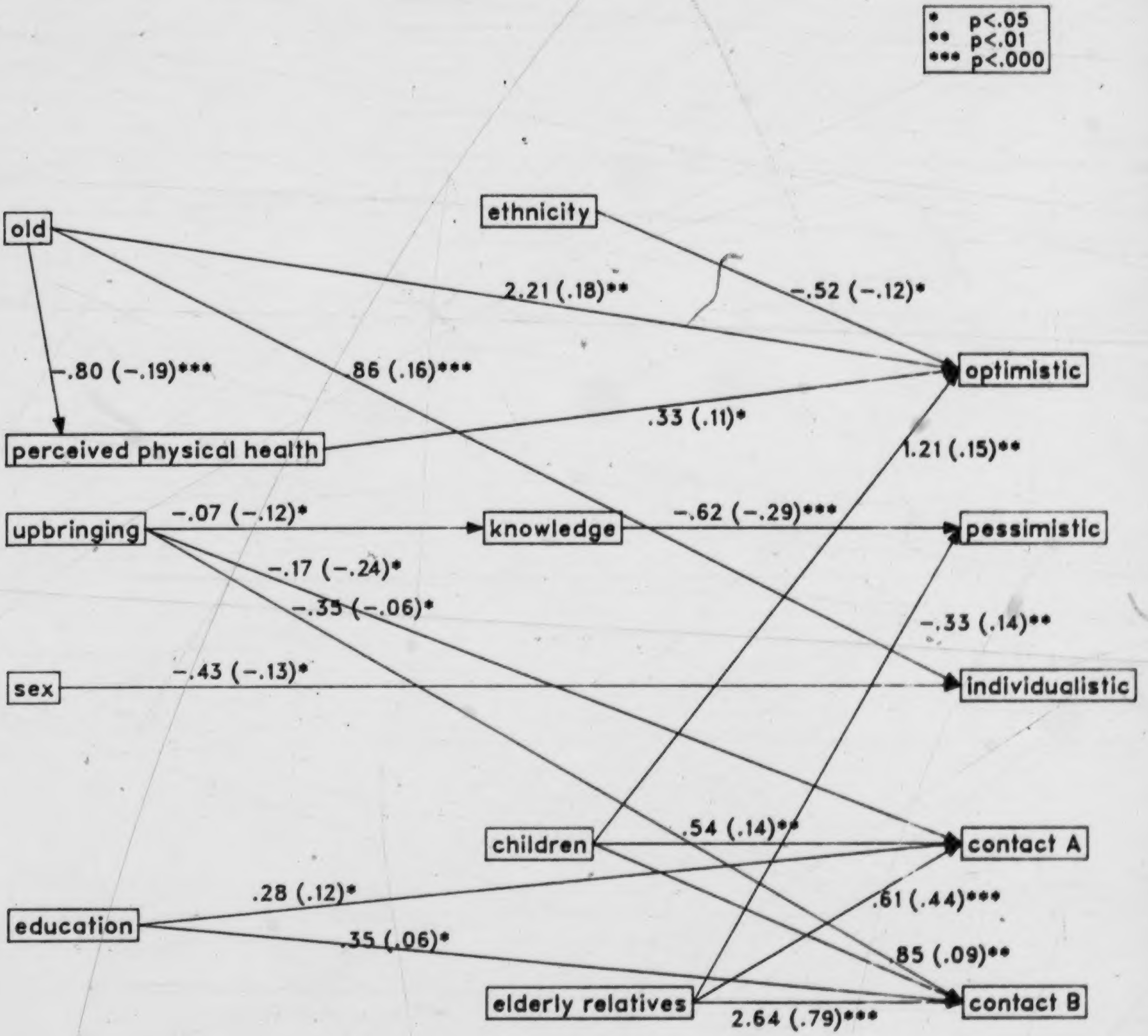

* p<.05
** p<.01
*** p<.000
never married
−1.98 (−.18)**
optimistic
.52 (.17)**
knowledge
−.86 (−.35)*
pessimistic
widowed
.67 (.11)*
individualistic
−.63 (−.13)*
.20 (.16)**
income
.01 (.14)*
perceived physical health
ethnicity
.31 (.14)**
contact A
elderly relatives
3.02 (.82)***
contact B

Figure 2. Path Analyses for Variables Predicting Attitudes Toward Old Age in Edmonton

1981 Edmonton Area Survey


* p<.05
** p<.01
*** p<.000
old
ethnicity
2.21 (.18)**
−.52 (−.12)*
−.80 (−.19)***
.86 (.16)***
optimistic
.33 (.11)*
perceived physical health
1.21 (.15)**
upbringing
−.07 (−.12)*
knowledge
−.62 (−.29)***
pessimistic
−.17 (−.24)*
−.35 (−.06)*
−.33 (.14)**
sex
−.43 (−.13)*
individualistic
children
.54 (.14)**
contact A
.28 (.12)*
.61 (.44)***
education
.35 (.06)*
.85 (.09)**
elderly relatives
2.64 (.79)***
contact B

VI. Discussion

A. Review of the Results

Results of T-tests on the difference between mean response scores revealed that statistically significant differences between Edmonton and Winnipeg do not exist on the knowledge, contact, or attitude items. Three dimensions emerged from the factor analyzed attitude items, termed Optimistic, Pessimistic, and Individualistic. Results of T-tests on the difference between the unstandardized regression coefficients revealed that statistically significant differences between Edmonton and Winnipeg exist between several of the predictor variables on each of the attitude scales. Firther, results of step-wise multiple regressions on each of the attitudinal factors identified different predictors for each city.

On the Optimistic dimension, two variables (Never Married and Knowledge) explained 5.5% of the variance in Winnipeg, while four variables (Old, Children, Ethnicity, and Perceived Physical Health) explained 4.4% of the variance in Edmonton. On the Pessimistic dimension, one variable (Knowledge) explained 11.9% of the variance in Winnipeg, while two variables (Knowledge and Elderly Relatives) explained 10.8% of the variance in Edmonton. On the Individualistic dimension, two variables (Perceived Physical Health and Widowed) explained 2.6% of the variance in Winnipeg, while two variables (Old and Sex) explained

3.5% of the variance in Edmonton. Although predictive equations emerged for each of the dimensions in each of the cities, for the most part the explanatory variables differ. The only consistent result between the two cities is the effect of Knowledge on the Pessimistic dimension.

Results of the multiple regressions on the contact measures are slightly more uniform. Although some effects differ between the two cities, the effect of Elderly Relatives is the most significant variable in each of the regression equations. In Winnipeg two variables (Elderly Relatives and Ethnicity) explained 21.8% of the variance in Contact With Most Significant Elderly Relative, while four variables (Elderly Relatives, Upbringing, Children, and Education) explained 28.7% of the variance in Edmonton. On the summation index of contact, one variable (Elderly Relatives) explained 67.7% of the variance in Winnipeg, while four variables (Elderly Relatives, Upbringing, Children, and Education) explained 68.5% of the variance in Edmonton.

Results of multiple regressions on the Knowledge scale are also somewhat consistent between the two cities. In Winnipeg, one variable (PessimisticW) explained 11.8% of the variance, while two variables (PessimisiticE and Upbringing) explained 10.2% of the variance in Edmonton. Worth noting is the emergence of Pessimistic as the strongest predictor variable in each city.

B. Discussion of Findings

Let us now return to the hypotheses outlined in Chapter III.

Hypothesis 1: It was hypothesized that an inverse relationship exists between individual modernity and attitudes toward old age.

Individual modernity was measured by the Kinship Contact, Value Orientations, and Socio-Economic Status of the individual respondents. In the Winnipeg sample it was found that Socio-Economic Status and Value Orientation have no effect on the attitude dimensions. Kinship Contact, however, as measured by marital status has an effect on both the optimistic and pessimistic attitude dimensions.

In the Edmonton sample, it was also found that Socio-Economic Status had no effect on the attitude dimensions. In contrast to the Winnipeg sample, however, Value Orientation, as measured by Ethnicity, has an effect on the optimistic dimension. Further, Kinship Contact, as measured by Children in the Household and Elderly relatives, has an effect on the optimistic and pessimistic attitude dimensions. Note that while Kinship Contact has an effect in both Edmonton and Winnipeg, the effects are caused by different indicants.

Support for the individual-modernity theory is not strong. The only variables providing support for the theory in the Winnipeg data are marital status's dummy variables, Never Married and Widowed. Never Married's direct negative effect on OptimisticW indicates that Never Married persons, assumed to have less kinship contact than married persons, have less optimistic attitudes toward old age. Widow's direct effect on IndividualisticW indicates that widowed persons feel neither a positive nor negative disposition toward old age, but rather individual responsibility.

The results from the Edmonton analysis provide mixed support for the modernity theory. The effects of Kinship Contact, as measured by Children in the Household, on OptimisticE and the negative effect of Elderly Relatives on PessimisticE are supportive of modernity and attitudes toward old age. One variable, however, actually negated the theory, that is, the negative effect of Ethnicity on OptimisticE. Though the effects of Upbringing and Education on the contact measures are supportive of modernity and contact, they are not supportive of modernity and attitudes toward old age.

Since so few of the indicators of individual modernity emerged as having significant effects on the attitude dimensions, and since the effects that do emerge vary between the two communities being studied, it is concluded that this investigation provides negligible support for the individual-modernity theory.

Hypothesis 2: It was hypothesized that a) a positive relationship exists between knowledge about the elderly and attitudes toward old age; and b) knowledge acts as an intervening variable between the indicators of individual modernity and attitudes toward old age.

In both cities, knowledge about the elderly had a negative effect on the pessimistic attitude dimension. This finding indicates that increased knowledge about the condition of the elderly results in a less pessimistic attitude toward old age. Thus this investigation is supportive of research which attempts to improve attitudes toward old age and the elderly by improving knowledge about the elderly (Murphy-Russell et al., 1986; Patterson, 1981; Wilson and Hafferty, 1980).

The path analyses were executed primarily to test the causal linkages between measures of individual modernity, knowledge, and the attitude scales. In the Winnipeg analysis Knowledge has a direct positive effect on OptimisticW and a direct negative effect on PessimisticW. The effect on OptimisticW is only half the size of the effect on PessimisticW. In Edmonton Knowledge has a direct negative effect on PessimisticE. Therefore, it may be concluded that improving people's knowledge about the elderly will result in improved attitudes toward old age and the elderly.

The effects of the control variables, although neither supporting nor negating the hypotheses, are, nevertheless, worth discussing since they add to the existing literature.

Age. Those in the Old age category (65+), in Edmonton, are both more optimistic and individualistic than others in their outlook toward old age. These effects are in agreement with the work of some researchers (Anatharaman, 1979; Knapp and Moss, 1963; Kogan and Wallach, 1961; Neugarten, 1958; Newfield, 1971; Youmans, 1971), but they are not supported by the Winnipeg sample.

Sex. It was found that males are more individualistic than females in Winnipeg. This finding is in agreement with some researchers (Bekker and Taylor, 1966; Kogan and Shelton, 1962a; Merrill and Gunter, 1966; Perrill, 1963; Tuckman and Lorge, 1952b), but no relationships were found between sex and any of the dependent measures in Edmonton.

Perceived Physical Health. The positive effect of Perceived Physical Health on IndividualisticW and OptimisticE is in agreement with previous research (Collette-Pratt, 1976; Jeffers et al., 1961; Preston, 1968; Rosencranz, 1966; Tuckman and Lorge, 1958b). No relationships were found, however, between Perceived Overall Health and the attitude dimensions.

Therefore, although this study has identified some predictors of attitudes toward old age, these results are due as much to the control and mediating variables as they are to the variables used as indicators of individual modernity. This study thus concludes, in agreement with Bengtson and Smith (1975), that the effects of individual modernity on attitudes toward old age are negligible.

C. Conclusion

A great deal of literature assumes that people have a negative attitude toward aging and the elderly. These perceived negative attitudes are hypothesized to: influence the types of political and social institutions that are designed for the elderly; affect the elderly's ability to seek needed services, health care, or other types of assistance; cause younger people to respond negatively to the elderly or to ignore them completely; and to cause the young to disassociate themselves from their own aging and thus not prepare for retirement (Bennett and Eckman, 1973:575). No studies, however, have shown the above outcomes to be true.

Despite the lack of proven utility of such work, an enormous amount of research has gone into assessing attitudes toward old age and the elderly. As the literature review shows, there exists a cacophany of results. Most of the early studies were concerned with developing measurement techniques and tended to be atheoretical. Connor and Walsh (1977) used Kelly's (1967) attribution theory. Cowgill and Holmes (1972) then formalized the aging and modernization theory which holds that an inverse relationship exists between societal modernization and attitudes toward the elderly. Bengtson and Smith (1975) refined this theory to make the distinction between societal modernization and individual modernity.

The main hypothesis tested here, that an inverse relationship exists between individual modernity and attitudes toward old age, is not supported by the data. The present investigation has nevertheless made several contributions to the area of attitude research in the field of social gerontology. This analysis has: employed a sampling frame broader than the typical student population;

tested the reliability and validity of a new measurement instrument; linked individual-level studies with societal-level theory; isolated and measured predictors of attitudes toward old age; confirmed the connection between knowledge about the elderly and attitudes toward old age; and demonstrated that results obtained from survey analysis of attitude items are not generalizable beyond the population tested.

It would now be interesting to ask the same question in the same cities to see if the same predictors emerge. It is believed that attitudes are not constants, but are affected by a community's economic climate and population stability. Since these factors are continually changing it is believed that attitudes toward old age will also be in constant flux. Thus an important contribution of this investigation is the lack of synchronization of the predictor variables between Edmonton and Winnipeg. The findings suggest that, barring faulty methodology, the observed statistically significant effects are not generalizeable beyond the population from which they were drawn and that attitudes toward a personal state such as aging are not easily assessed nor predicted by variables traditionally available on surveys.

D. Suggestions for Future Research

Future research should be designed to assess whether or not attitudes are related to actual behavior toward the elderly. For instance, experiments could be designed which first assess attitudes toward old age and then provide subjects with opportunities to interact with, assist, or work with elderly people.

Results of this investigation coupled with Canada's demographic situation and the continued low status of women in the workforce suggest that future research should focus on how knowledge and attitudes relate to preparedness for retirement with a particular emphasis on how well females are preparing for retirement. This is an important research question given mandatory retirement and the aging of the Canadian population. By the year 2010 more than 15% of the Canadian population will be over the age of 65. The majority of this elderly population will be female and although more women are working than in previous generations, many will still be dependent on their husbands' pensions in their retirement years. Their husbands' pensions, however, will terminate when their husbands die. Since females outlive males and since females tend to marry older males, many elderly females will continue to live at or below the poverty line unless they prepare for their retirement years.

In addition to questions dealing with preparedness for retirement it is suggested that questions on the objective health status of the respondents be asked. The objective health status of the elderly is known to correlate with attitudes, but little is known about the relationship between the objective health status of younger adults and their attitudes and preparedness for retirement. Even though the subjective health variables did not emerge as strong predictors of attitudes toward old age, when controlling for other variables, it is believed that scores on subjective health variables are subject to response set bias and do not accurately measure the respondent's health. It is suggested that questions dealing specifically with the number of chronic illnesses, the number of visits to the physician's office, and the number of prescription drugs taken would provide more valid indicants of actual health status.

It is also suggested that questions concerning contact with elderly relatives be expanded to assess the quality of contact. For instance, is the contact that respondents have with elderly relatives positive, neutral, or negative and how does the quality of contact affect attitudes and preparedness for retirement? Questions should also be included which ask about the quantity and quality of contact that respondents have with elderly persons other than relatives.

Finally, it is suggested that the questions analysed in this investigation, with the recommended modifications, be asked again. The results from the later survey could then be compared to the present investigation to determine if any change has occured in the knowledge or attitudes held by the residents of Edmonton, Alberta and Winnipeg, Manitoba. Analysis of the proposed study would determine whether or not relationships exist between quality of contact with elderly people, attitudes toward old age, and preparedness for individual retirement.

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